```
   1 CCCAGGGCGC CGTAGGCGGT GCATCCCGTT CGCGCCTGGG GCTGTGGTCT
  51 TCCCGCGCCT GAGGCGGCGG CGGCAGGAGC TGAGGGGAGT TGTAGGGAAC
 101 TGAGGGGAGC TGCTGTGTCC CCCGCCTCCT CCTCCCCATT TCCGCGCTCC
 151 CGGGACCATG TCCGCGCTGG CGGGTGAAGA TGTCTGGAGG TGTCCAGGCT
 201 GTGGGGACCA CATTGCTCCA AGCCAGATAT GGTACAGGAC TGTCAACGAA
 251 ACCTGGCACG GCTCTTGCTT CCGGTGAAAG TGATGCGCAG CCTGGACCAC
 301 CCCAATGTGC TCAAGTTCAT TGGTGTGCTG TACAAGGATA AGAAGCTGAA
 351 CCTGCTGACA GAGTACATTG AGGGGGGCAC ACTGAAGGAC TTTCTGCGCA
 401 GTATGGATCC GTTCCCCTGG CAGCAGAAGG TCAGGTTTGC CAAAGGAATC
 451 GCCTCCGGAA TGGACAAGAC TGTGGTGGTG GCAGACTTTG GGCTGTCACG
 501 GCTCATAGTG GAAGAGAGGA AAAGGGCCCC CATGGAGAAG GCCACCACCA
 551 AGAAACGCAC CTTGCGCAAG AACGACCGCA AGAAGCGCTA CACGGTGGTG
 601 GGAAACCCCT ACTGGATGGC CCCTGAGATG CTGAACGGAA AGAGCTATGA
 651 TGAGACGGTG GATATCTTCT CCTTTGGGAT CGTTCTCTGT GAGATCATTG
 701 GGCAGGTGTA TGCAGATCCT GACTGCCTTC CCCGAACACT GGACTTTGGC
 751 CTCAACGTGA AGCTTTTCTG GGAGAAGTTT GTTCCCACAG ATTGTCCCCC
 801 GGCCTTCTTC CCGCTGGCCG CCATCTGCTG CAGACTGGAG CCTGAGAGCA
 851 GACCAGCATT CTCGAAATTG GAGGACTCCT TTGAGGCCCT CTCCCTGTAC
 901 CTGGGGGAGC TGGGCATCCC GCTGCCTGCA GAGCTGGAGG AGTTGGACCA
 951 CACTGTGAGC ATGCAGTACG GCCTGACCCG GGACTCACCT CCCTAGCCCT
1001 GGCCCAGCCC CCTGCAGGGG GGTGTTCTAC AGCCAGCATT GCCCCTCTGT
1051 GCCCCATTCC TGCTGTGAGC AGGGCCGTCC GGGCTTCCTG TGGATTGGCG
1101 GAATGTTTAG AAGCAGAACA AACCATTCCT ATTACCTCCC CAGGAGGCAA
1151 GTGGGCGCAG CACCAGGGAA ATGTATCTCC ACAGGTTCTG GGGCCTAGTT
1201 ACTGTCTGTA AATCCAATAC TTGCCTGAAA GCTGTGAAGA AGAAAAAAAC
1251 CCCTGGCCTT TGGGCCAGGA GGAATCTGTT ACTCGAATCC ACCCAGGAAC
1301 TCCCTGGCAG TGGATTGTGG GAGGCTCTTG CTTACACTAA TCAGCGTGAC
1351 CTGGACCTGC TGGGCAGGAT CCCAGGGTGA ACCTGCCTGT GAACTCTGAA
1401 GTCACTAGTC CAGCTGGGTG CAGGAGGACT TCAAGTGTGT GGACGAAAGA
1451 AAGACTGATG GCTCAAAGGG TGTGAAAAAG TCAGTGATGC TCCCCCTTTC
1501 TACTCCAGAT CCTGTCCTTC CTGGAGCAAG GTTGAGGGAG TAGGTTTTGA
1551 AGAGTCCCTT AATATGTGGT GGAACAGGCC AGGAGTTAGA GAAAGGGCTG
1601 GCTTCTGTTT ACCTGCTCAC TGGCTCTAGC CAGCCCAGGG ACCACATCAA
1651 TGTGAGAGGA AGCCTCCACC TCATGTTTTC AAACTTAATA CTGGAGACTG
1701 GCTGAGAACT TACGGACAAC ATCCTTTCTG TCTGAAACAA ACAGTCACAA
1751 GCACAGGAAG AGGCTGGGGG ACTAGAAAGA GGCCCTGCCC TCTAGAAAGC
1801 TCAGATCTTG GCTTCTGTTA CTCATACTCG GGTGGGCTCC TTAGTCAGAT
1851 GCCTAAAACA TTTTGCCTAA AGCTCGATGG GTTCTGGAGG ACAGTGTGGC
1901 TTGTCACAGG CCTAGAGTCT GAGGGAGGGG AGTGGGAGTC TCAGCAATCT
1951 CTTGGTCTTG GCTTCATGGC AACCACTGCT CACCCTTCAA CATGCCTGGT
2001 TTAGGCAGCA GCTTGGGCTG GGAAGAGGTG GTGGCAGAGT CTCAAAGCTG
2051 AGATGCTGAG AGAGATAGCT CCCTGAGCTG GGCCATCTGA CTTCTACCTC
2101 CCATGTTTGC TCTCCCAACT CATTAGCTCC TGGGCAGCAT CCTCCTGAGC
2151 CACATGTGCA GGTACTGGAA AACCTCCATC TTGGCTCCCA GAGCTCTAGG
2201 AACTCTTCAT CACAACTAGA TTTGCCTCTT CTAAGTGTCT ATGAGCTTGC
2251 ACCATATTTA ATAAATTGGG AATGGGTTTG GGGTATTAAA AAAAAAAAAA
2301 AAAAAAAAAA AAAAAAAAAA  (SEQ ID NO:1)

FEATURES:
5'UTR:          1-228
Start Codon:    229
Stop Codon:     994
3'UTR:          997
```

FIGURE 1A

Homologous proteins:
Top 10 BLAST Hits

	Score	E
CRA|1000682328847 /altid=gi|8051618 /def=ref|NP_057952.1| LIM d...	485	e-136
CRA|18000005015874 /altid=gi|5031869 /def=ref|NP_005560.1| LIM ...	485	e-136
CRA|88000001156379 /altid=gi|7434382 /def=pir||JC5814 LIM motif...	469	e-131
CRA|88000001156378 /altid=gi|7434381 /def=pir||JC5813 LIM motif...	469	e-131
CRA|18000005154371 /altid=gi|7428032 /def=pir||JE0240 LIM kinas...	469	e-131
CRA|18000005126937 /altid=gi|6754550 /def=ref|NP_034848.1| LIM ...	469	e-131
CRA|18000005127186 /altid=gi|2804562 /def=dbj|BAA24491.1| (AB00...	469	e-131
CRA|18000005127185 /altid=gi|2804553 /def=dbj|BAA24489.1| (AB00...	469	e-131
CRA|18000005004416 /altid=gi|2143830 /def=pir||I78847 LIM motif...	468	e-131
CRA|18000005004415 /altid=gi|1708825 /def=sp|P53670|LIK2_RAT LI...	468	e-131

BLAST dbEST hits:

	Score	E
gi|10950740 /dataset=dbest /taxon=96...	1049	0.0
gi|10156485 /dataset=dbest /taxon=96...	975	0.0
gi|5421647 /dataset=dbest /taxon=9606 ...	952	0.0
gi|10895718 /dataset=dbest /taxon=96...	757	0.0
gi|13043102 /dataset=dbest /taxon=960...	714	0.0
gi|519615 /dataset=dbest /taxon=9606 /...	531	e-149
gi|11002869 /dataset=dbest /taxon=96...	511	e-143

EXPRESSION INFORMATION FOR MODULATORY USE:
library source:
From BLAST dbEST hits:
gi|10950740 teratocarcinoma
gi|10156485 ovary
gi|5421647 testis
gi|10895718 nervous_normal
gi|13043102 bladder
gi|519615 infant brain
gi|11002869 thyroid gland

From tissue screening panels:
Fetal whole brain

FIGURE 1B

```
   1 MVQDCQRNLA RLLLPVKVMR SLDHPNVLKF IGVLYKDKKL NLLTEYIEGG
  51 TLKDFLRSMD PFPWQQKVRF AKGIASGMDK TVVVADFGLS RLIVEERKRA
 101 PMEKATTKKR TLRKNDRKKR YTVVGNPYWM APEMLNGKSY DETVDIFSFG
 151 IVLCEIIGQV YADPDCLPRT LDFGLNVKLF WEKFVPTDCP PAFFPLAAIC
 201 CRLEPESRPA FSKLEDSFEA LSLYLGELGI PLPAELEELD HTVSMQYGLT
 251 RDSPP  (SEQ ID NO:2)
```

FEATURES:
Functional domains and key regions:
[1] PDOC00004 PS00004 CAMP_PHOSPHO_SITE
cAMP- and cGMP-dependent protein kinase phosphorylation site

Number of matches: 2

1	108-111	KKRT
2	119-122	KRYT

[2] PDOC00005 PS00005 PKC_PHOSPHO_SITE
Protein kinase C phosphorylation site

Number of matches: 4

1	51-53	TLK
2	106-108	TTK
3	107-109	TKK
4	111-113	TLR

[3] PDOC00006 PS00006 CK2_PHOSPHO_SITE
Casein kinase II phosphorylation site

Number of matches: 4

1	51-54	TLKD
2	76-79	SGMD
3	139-142	SYDE
4	212-215	SKLE

[4] PDOC00008 PS00008 MYRISTYL
N-myristoylation site

Number of matches: 4

1	73-78	GIASGM
2	77-82	GMDKTV
3	150-155	GIVLCE
4	158-163	GQVYAD

Membrane spanning structure and domains:

Helix	Begin	End	Score	Certainty
1	142	162	0.872	Putative
2	184	204	0.652	Putative

FIGURE 2A

BLAST Alignment to Top Hit:
>CRA|1000682328847 /altid=gi|8051618 /def=ref|NP_057952.1| LIM domain kinase 2 isoform 2b [Homo sapiens] /org=Homo sapiens /taxon=9606 /dataset=nraa /length=617
Length = 617

Score = 485 bits (1235), Expect = e-136
Identities = 241/265 (90%), Positives = 241/265 (90%), Gaps = 22/265 (8%)

```
Query: 13  LLPVKVMRSLDHPNVLKFIGVLYKDKKLNLLTEYIEGGTLKDFLRSMDPFPWQQKVRFAK 72
           L  VKVMRSLDHPNVLKFIGVLYKDKKLNLLTEYIEGGTLKDFLRSMDPFPWQQKVRFAK
Sbjct: 353 LTEVKVMRSLDHPNVLKFIGVLYKDKKLNLLTEYIEGGTLKDFLRSMDPFPWQQKVRFAK 412

Query: 73  GIASGM----------------------DKTVVVADFGLSRLIVEERKRAPMEKATTKKR 110
           GIASGM                      DKTVVVADFGLSRLIVEERKRAPMEKATTKKR
Sbjct: 413 GIASGMAYLHSMCIIHRDLNSHNCLIKLDKTVVVADFGLSRLIVEERKRAPMEKATTKKR 472

Query: 111 TLRKNDRKKRYTVVGNPYWMAPEMLNGKSYDETVDIFSFGIVLCEIIGQVYADPDCLPRT 170
           TLRKNDRKKRYTVVGNPYWMAPEMLNGKSYDETVDIFSFGIVLCEIIGQVYADPDCLPRT
Sbjct: 473 TLRKNDRKKRYTVVGNPYWMAPEMLNGKSYDETVDIFSFGIVLCEIIGQVYADPDCLPRT 532

Query: 171 LDFGLNVKLFWEKFVPTDCPPAFFPLAAICCRLEPESRPAFSKLEDSFEALSLYLGELGI 230
           LDFGLNVKLFWEKFVPTDCPPAFFPLAAICCRLEPESRPAFSKLEDSFEALSLYLGELGI
Sbjct: 533 LDFGLNVKLFWEKFVPTDCPPAFFPLAAICCRLEPESRPAFSKLEDSFEALSLYLGELGI 592

Query: 231 PLPAELEELDHTVSMQYGLTRDSPP 255
           PLPAELEELDHTVSMQYGLTRDSPP
Sbjct: 593 PLPAELEELDHTVSMQYGLTRDSPP 617  (SEQ ID NO:4)
```

Hmmer search results (Pfam):

Model	Description	Score	E-value	N
PF00069	Eukaryotic protein kinase domain	100.1	1.1e-26	2
CE00031	CE00031 VEGFR	4.9	0.14	1
CE00204	CE00204 FIBROBLAST_GROWTH_RECEPTOR	4.7	1	1
CE00359	E00359 bone_morphogenetic_protein_receptor	1.8	7.9	1
CE00022	CE00022 MAGUK_subfamily_d	1.5	2.5	1
CE00287	CE00287 PTK_Eph_orphan_receptor	-48.4	3.8e-05	1
CE00292	CE00292 PTK_membrane_span	-61.8	2.1e-05	1
CE00291	CE00291 PTK_fgf_receptor	-113.0	0.027	1
CE00286	E00286 PTK_EGF_receptor	-125.1	0.0021	1
CE00290	CE00290 PTK_Trk_family	-151.3	6.5e-05	1
CE00288	CE00288 PTK_Insulin_receptor	-210.4	0.014	1

Parsed for domains:

Model	Domain	seq-f	seq-t		hmm-f	hmm-t		score	E-value
PF00069	1/2	16	79	..	41	105	..	52.1	2.3e-13
CE00022	1/1	124	153	..	187	216	..	1.5	2.5
PF00069	2/2	81	156	..	129	182	..	48.0	3.1e-12
CE00031	1/1	129	156	..	1114	1141	..	4.9	0.14
CE00204	1/1	129	156	..	705	732	..	4.7	1
CE00359	1/1	79	157	..	287	356	..	1.8	7.9
CE00290	1/1	9	218	..	1	282	[]	-151.3	6.5e-05
CE00287	1/1	1	218	[.	1	260	[]	-48.4	3.8e-05
CE00291	1/1	1	218	[.	1	285	[]	-113.0	0.027
CE00292	1/1	1	218	[.	1	288	[]	-61.8	2.1e-05
CE00288	1/1	1	218	[.	1	269	[]	-210.4	0.014
CE00286	1/1	6	218	..	1	263	[]	-125.1	0.0021

FIGURE 2B

```
   1 TCATCCTTGC GCAGGGGCCA TGCTAACCTT CTGTGTCTCA GTCCAATTTT
  51 AATGTATGTG CTGCTGAAGC GAGAGTACCA GAGGTTTTTT TGATGGCAGT
 101 GACTTGAACT TATTTAAAAG ATAAGGAGGA GCCAGTGAGG GAGAGGGGTG
 151 CTGTAAAGAT AACTAAAAGT GCACTTCTTC TAAGAAGTAA GATGGAATGG
 201 GATCCAGAAC AGGGGTGTCA TACCGAGTAG CCCAGCCTTT GTTCCGTGGA
 251 CACTGGGGAG TCTAACCCAG AGCTGAGATA GCTTGCAGTG TGGATGAGCC
 301 AGCTGAGTAC AGCAGATAGG GAAAAGAAGC CAAAAATCTG AAGTAGGGCT
 351 GGGGTGAAGG ACAGGGAAGG GCTAGAGAGA CATTTGGAAA GTGAAACCAG
 401 GTGGATATGA GAGGAGAGAG TAGAGGGTCT TGATTTCGGG TCTTTCATGC
 451 TTAACCCAAA GCAGGTACTA AAGTATGTGT TGATTGAATG TCTTTGGGTT
 501 TCTCAAGACT GGAGAAAGCA GGGCAAGCTC TGGAGGGTAT GGCAATAACA
 551 AGTTATCTTG AATATCCTCA TGGTGGAAAG TCCTGATCCT GTTTGAATTT
 601 TGGAAATAGA AATCATTCAG AGCCAAGAGA TTGAATTGTT GAGTAAGTGG
 651 GTGGTCAGGT TACAGACTTA ATTTTGGGTT AAAAAGTAAA AACAAGAAAC
 701 AAGGTGTGGC TCTAAAATAA TGAGATGTGC TGGGGGTGGG GCATGGCAGC
 751 TCATAAACTG ACCCTGAAAG CTCTTACATG TAAGAGTTCC AAAAATATTT
 801 CCAAAACTTG GAAGATTCAT TTGGATGTTT GTGTTCATTA AAATCTCTCA
 851 CTAATTCATT GTCTTGTCCA CTGTCCGTAA CCCAACCTGG GATTGGTTTG
 901 AGTGAGTCTC TCAGACTTTC TGCCTTGGAG TTTGTGAGAG AGATGGCATA
 951 CTCTGTGACC ACTGTCACCC TAAAACCAAA AAGGCCCCTC TTGACAAGGA
1001 GTCTGAGGAT TTTAGACCCA GGAAGAATGA GTGATGGGCA TATATATATC
1051 CTATTACTGA GGCATGAGAA GAGTGGAATG GGTGGGTTGA GGTGGTGTTT
1101 TAAGGCCTCT TGCCAGCTTG TTTAACTCTT CTCTGGGGAA CGAGGGGGAC
1151 AACTGTGTAC ATTGGCTGCT CCAGAATGAT GTTGAGCAAT CTTGAAGTGC
1201 CAGGAGCTGT GCTTTGTCTA TTCATGGCCC CTGTGCCTGT GAAACAGGGT
1251 TCGGTGACTG TCACTGTGCC TGTGGCAGTC TGTAGTTACC CAGAGAGAAC
1301 AAAGCTGCAT ACACAGAGCG CACAAGGGAG TCTTGTAACA ACCTTGTCCT
1351 GCTTTCTAGG GCTGAGTCAG GTACCACAGC TTGATCTCAG CTGTCCTCTT
1401 TATTTCAAGA AGTTGACATC TGAGCCATAC CAGGAGTATT GTATTTTGTT
1451 TGAGGCCTCT CTTTTTGGAG GAACATGGAC CGACTCTGTG CTTTTGTCTA
1501 TGCTGGTCTC TGAGCTCACA CAACCCTTCA CCCTCCTTTC TCAGCCAGTG
1551 ATAGGTAAGT CTTCCCTATC TTGCAAGGCT CAGCTCAAGT GTCAGCTTCC
1601 TCTACAAAGA CTTTCCTGGT TCCCCTCATT GGAGTGAACA AGAGTTGACA
1651 TGGTAGAATG GAAAGAGCAG AAGCTTTAGA ATGAGCCAGA CCTGAGTATG
1701 AATGCTAGAT CCACCACTTA GCTAGTCAAC CCTGCCCCCT GCCTCAAGTT
1751 TTAATTTTCC TATCCATTAA GTGAATATAA TAATACCTGT GTCACAGGAT
1801 TATTTTGAGA ATTAAATGAG ATTAGGTCTA TGAAAGCACC TAGCAGAGTT
1851 CTTGGCATAT AGGAGGCATT CATTAAATAT TTGTTCTTCC CCTTTTATAC
1901 CCATTACTTT TCTTTTTCTG AACTAAAATA ATACTTGGTT CTATCTCTGA
1951 AATAACATCC AAGTGAAAAA TCAACAACAT GAAAGAGCAG TTCTTTTCCA
2001 GTGGATTTGC TTCTTAAGGA GCAGAGATTA TGTAATCTAA CAGCCTCCAA
2051 CATACAAAGA GCTTTGTATC TAGAACAGGG GTCCCCAGCC CCTGGACCGC
2101 CAACTGGTAC GGGTCTGTAG CCTGTTAGGA ACCAGGCTGC ACAGCAGGAG
2151 GTGAGCGGCG GGCCAGTGAG CATTGCTGCC TGAGCTCTGC CTCCTGTCAG
2201 ATCAGTGGTG GCATTAGATT CTCATAGGAG TGTGAACCCT ATTGTGAACT
2251 GCACATGCAA GGGATCTGGG TTGCATGCTC CTTATGAGAA TCTCACTAAT
2301 GGCTGATGAT CTGAGTTGGA ACAGTTTGAT ACCAAAACCA TCCCCCCGCC
2351 CCCCAACCCC CAGCCTAGGG TCCGTGGAAA AATTGGCCCC TGGTGCCAAA
2401 AAGGTTGAGG ACTGCTGATC TAGAGGACCA ATTTATTCAA TGTTGGTTGA
2451 GTAAATGAGC TCTTGGATTA GGTGATGGAA AAATCTGAAA AAACAGGGCT
2501 TTTGAGGAAT AGGAAAAGGC AGTAACATGT TTAACCCAGA GAGAAGTTTC
2551 TGGCTGTTGG CTGGGAATAG TCATAGGAAG GGCTGACACT GAAAAGAAGG
2601 AGATTGTGTT CGTTTCTTCT TCTCAGAGCT ATAAGCAAAG GCTGAAAGTT
2651 CTAGAAAAAG GCAAGTTTTG TTTCAGTAGA AAAAAGGATA ATCAGAACCA
2701 TTTTTAGAAA ATGGAATGAG ACTACTTTTG AGGCCATGAG TTCCTTGTCC
2751 CTGGAGAGAT GAGCAGAGGT TGGACAAGTG CTTACCAGAG ATCTTGTGGA
2801 GGCAGAAACT GTGCATCTAG CAGAGCATTG GCCTAACCCT TTCAAATGAG
2851 ATGCTGTTAA CTCAGTCTTA TTCTACATGG TAGGAATCCT GTCCCTTTGC
2901 CTCCTGCTAC TTTGGGCCTC TCAACCTCTT GGTTTTGTGT GCAGGTGAAG
```

FIGURE 3-1

2951 ATGTCTGGAG GTGTCCAGGC TGTGGGGACC ACATTGCTCC AAGCCAGATA
3001 TGGTACAGGA CTGTCAACGA AACCTGGCAC GGCTCTTGCT TCCGGTAGGT
3051 GGGCCTATCC TCCCATCTTT ACCAGTGTAC TATGGGCCAA GCACTATTTC
3101 ATGTTCTGAT GGAAAACACA GAAACAAGCT TCTGAGTTGA GAATTTCAAT
3151 CTTAGGGTGG GGAAAGGAAT GTACCAAGGA AGAGCTCATG ACCAAACCTC
3201 AAGTGTGGCC CCCCTGAACC CAGGTTAAAT TGGAAGAGCC ATAAATGGGC
3251 CAGCTGGAGG CAGGGTGGGG GGATGAGAGG AGCCCTTTCC AGGGTTGTCC
3301 CATATCCCTC ACTTTATGGG TGAGGAAACT GAGGCCCAGG AAGAGTGACT
3351 TTCCTGTGGC TGCACTACAG ATTATGCAGG TACTTCAAGA GTTGTTTGTA
3401 TTCTTATTTT ATTTTATTTT ATTTTATTTT ATTTTATTTT ATTTTATGAG
3451 AGGGATTCTT GCTGTTGCCC AGGCTGGAGT GCAGTGGTGC AATCTCGGCT
3501 CACTGCAATC TCTGCCTGCT GGGTTCAAGT GATTTTTCTG CCTTAGCTTC
3551 CTGAGTAGCT GAGATGACAG GCACCTGCCA CCATGCGCAG CTAATTTTTG
3601 TATTTTAGTG GAGACGGGGG TTTCAACATG TTGGTCAGGC TGGTCTTGAA
3651 CTCCTGACCT CAAATGATGC ACCCACCTCG ACCTCCCAAA GTGCTGGAAT
3701 TACAGGCGTG AACCACTGTG CCCAGCCAAG AGTTGTTTTT AGTGTGGTTG
3751 GCAGAGCCAG CTCTTCCTTC ACCACAGGAT GCCTCCCTAG GTTCCTACTT
3801 TTTGTTACTA GCTTTTATTA TAGCTATATT ATTATTATTA TTATTATTAT
3851 TATTATTATT ATTATTGAGA CAGAGTCTCG CTCTGTCGCC CAGGCTGGTG
3901 TACAGTGGTG CGATCCCGGG CTCACTGCAA CCTCTGCCTC CCGAGTTCAA
3951 GCAGTTCTCC TGCCTCAGCC CCCCGAGTAG GTGGGACTAC AGGCGCCTGC
4001 CACCACACCC GGCTAATTTT TGTATTTTTA GTAGAGACGG GGTTTCACCT
4051 TGTTGACCAG GCTGGTCTGG AGCTCCTGAC CTCAGGTAAG TGCTAGAATC
4101 ACAGGCGTGA ACCACTGCGC CCAGCCAAGA GTTGTTTTTA GTGTGGTTGG
4151 CAGAGCCAGC TCTTCCTCAC CACAGGTTGC CTCCCTAGGT TCCTACTTTT
4201 TGTTACTAGC TTTATTATAG CTACATTATT ATTATTATTG TTATTATTAT
4251 TGAGACAGAG TCTCGCTCTG TCGCCCAGGC TGGTGTACAG TGATGTGATC
4301 TTGGCTCACT GCAACCTCTG CCCCCCGAGT TCAAGCAATT CTCCTGCTTC
4351 AGCCCCCCTA GTAGGTGGGA CTCCAGGCAC CTGCCACCAC GCCCAGCTAA
4401 TTTTTGTATT TTTAGTAGAG GCGGGGTTTC ACCTTGTTGG CCAGGCTGGT
4451 CTCAAACTCC TGACCTCAGG TGATCCGCCT GCCTCGGCCT CCCAAAATGT
4501 TGGGATTACA GGCATGAGCC ACCGCGCCCT GCCTATAGCT ACATTATTTT
4551 TGTAGGCAGC TCAGTTTCTT AAAAATTATA CAGACTTCAA ATCAGATTTG
4601 TTCCTGCTGT CTGAGGCTCA GTTTCTTCAT CTGGAAAATG GATGGTAATA
4651 ATCTTGTTGA GATTGAATGA AATAATATAT GCAGTGTATC CAGTACATGG
4701 TAGACACCCA GTGAATGGTT ATTCCTTCCT CCCATCGGAT TGGAATTCTC
4751 AAGGGTGGGA ACTTGTCTTT ATATTCTTCA CAACGTAAAA TAGTTGAAAT
4801 TTGTTGGTGG AAAGAAGAGC AGTCCACTCC AGAGGCTGGA TGGGCATGCC
4851 TGGCCCCCAA GGTCTGAAGT GGTAGGGCTG TGCCTATATC CTGAGAATGA
4901 GATAGACTAG GCAGGCACCT TGTGCTGTAG ATTCCAGCTC CTGCACATAG
4951 CTCTTGTTGT AAAACATCCC TGTGCTTATA CCAAGTAATT GAGTTGACCT
5001 TTAAACACTT GCCTCTTCCC TGGGAACCAT ATAGGGGATT GGCCTGGAGA
5051 CGTCTGGCCT CTGGAAGAGT TGGAAAGCAG CCATCATTAT TATCCTTTCC
5101 TTTCAGCTAT AACTCAGAGC TCTCAAGTCT TTTCTGTGGA TCTTATTGCC
5151 TTGGTTCTTG CCCCTTTTAC TCCCAGGGAA GTTGATTCTG TCTTTTCTGT
5201 TCCATTTAGT ATGACAGGAG CAGAGAATGT CAGAGCTGTA AGGGACCTTA
5251 TAGTTAAAGC CTTTGGCTGG TCCTTTCATT TTATAGCTGG GACTAATAAG
5301 TAACGTCAAA ACCCAATGAG TTCACAGATT GGGTCTCGCC TTGGCATGTA
5351 ACCCATATGT TCATATTCTT GCTGTTTTCC TATGTGTATG AATATTTTCT
5401 ATCCAAAATA AGCAGGACAG GGTAGAGCAA GTTAATCTTT GGAATTTCTG
5451 GATTCTCTTA GAGCTAAAAA ACTTCAGAAC TAGAAGAAAC CACCCACTAT
5501 ATGGTATAAC CCATTCATAT CACAGATGAG GCCTGAAACC AAAAAGACTT
5551 GCTCAGGCCA TGGATGACAA GAGCTGGCCC TAGCACTGAA CTCTTGGGTC
5601 ATTTGTAGGT CTAGTCAGAT GCTAGCTTGT TAGCTCTGTG CGTGCGTGTG
5651 TGTGTGTGTG TGTGTGTGTG TGTGTGAGAT AGAGACAGAA AGATAACATA
5701 TGTACACAAA TACATAAAGA GGAAGTAGAC ACGTTAGCAT GGTAGATAAG
5751 AGTACAGGCA GGCCAGGCGT GGTGGCTCAC GCCTGTAATC CCAGCACTTT
5801 GGGAGGCCAA GGCAGGTGGA TCACCTGAGG TCAGGAATTC GAGACCAGCC
5851 TGACCAACAT GGTGAAACCC CATCTCTACT AAATACAGAA AAAAATTAGC

FIGURE 3-2

5901 TTGGCATGGT GGCACATGCC TGTAATCCCA GCTACTTGGG AAGCTGAAGC
5951 AGGAGAATCG CTTGAATCCG GGAAGCAGAA GTTGCAGTGA GCCGAGATTG
6001 TGCCATTACA GTCTAGCCTG GGCAACAAGA GGGAAACTCC ATCGCAAAAA
6051 AACAACCACC ACCAAGAGTA CAGGCTATGG AATGAGACTA TGGTTTTAAA
6101 TCCTGGCTTT GCAATTTATT AACTAGCCTT AAGTGACTTC CCTGAGCTTC
6151 AGGCACCAAT CTGTAAAATG AGGATAAGAA TATTACTCAT GCCACATGGT
6201 TGTTAGGGAG GATTAAATGT GATAACCTAT ATAAAGTGGC TAGCATAGCA
6251 TCTGACATAT AGAAAACTCT TAATAGGGCC GGACGTGGTG GCTTATGCCT
6301 GTAATCCTAG CACTCTGGGA GGCCGAGGCA GAAGGATCGC TTGAGCCCAT
6351 GAGCCCAGGA GTTTGAGACC AGCCTGGCCA ACATGGCAAA ACTCCACCTC
6401 TACAAAAAAT ACAAAAATAT TAGCCAGGCG TGATGGCACA CACCTGTAGT
6451 CCCAGCTACT TGGGAAGCTG AGGAGCGATG ATTACCTGAG CCCAGGGATA
6501 TCAAGGCTGT AGTGAGCTGT GATCATGCCA CTGTACTCCA TCCAGCTGGG
6551 GGACAGAGTG AAACCCCTGT CTCAAAACAA AACAAATGAA AAAAAAAACC
6601 CTTAATAATC AGTAACTGTC ACTTTATATT ATGTTGTGAG TGTGTGTCTA
6651 TATACACCTA TATGTATACA TTTCTCTTAT TACACATTCA TTGGTGATCT
6701 GATGTGGAGC CCCAGGGATT AAGGGCAACT TTGAACTACC CTGACACAAT
6751 CAAGCCAAAT ATCATTCCCG TGGAGGAAGT AGAGTATCTA GGTTCTGTCT
6801 CCTAGTTGCA GCTTTACCTT GAGGACAGAG ACTCTAATCC AGCTGTGCTG
6851 AAGGAGCACA TCTCCTGACT TCTGAGCTTT CCCCTGGTAA ATTCAAACTG
6901 GATGTCACGG CGCCCTCAGA TAGAGCCTGG TAATTTGCCC TGGGGAGAGT
6951 GACTGTCTTT TGGATCTAAT TTGACTTTTG CCCCAGTTGG AGGAAAATCT
7001 TCAGGGCTAG GAAGGATTGT ATTTGTCTGA CCCCAGAGAT AACCTGGGTT
7051 TTGAGGAACA TGGGGCATCA ACCTGAATGG TCTTGTAAGA TCTCTCCCAC
7101 GCCAGCTTGC CAGTGTTTCT CTGATGAATT TAGAGTACCT GAGTAGTGCA
7151 GGCCTGCTGG GAGGAGGACT CTCCCTCTGT GCTACTCAGA GAAATTCATT
7201 CTTCAAGGCC CCCTTCCAGC CTTGCTCTTA CCCAGCTGGG CTACAGTTAC
7251 AATAAAGGAA ATGACTTTTC TTCTCCCCTT CCCCCAGTAC CTTTGTTTTC
7301 CTAGTCACAG GGTGGGGCTG GATATTGAAT GGAGAAATTG CTGGGGTCCA
7351 TCCTAAACTC CTCCCCTCAT CTCTCCCTTA CATTACCCCA TTCTTCTGTC
7401 TGCAGCCACA TCCATAATCC TGCCTCTGTT AGCCTTCCGA CAGACCCTCA
7451 GGTGCCCAGG ACAACAGGAA GCTACTTAAA GCTGGAACCT CAGACTGTGC
7501 AATGGAGGCC AGTGACAAAA CTGAAAGTAG CTCTGTCAGT AATTGTGCTG
7551 GTGCGATTAG GCAGCTGGCC AGAATCTTTT GGATCTCCTG GACATATGGC
7601 TGACTAGTCC TCCCAAGCCT TCCCAACAGG CCTCTTTTTT TTCCTTTTTT
7651 TCTTTTCTTT TTTTTCTTTC TTTCTTTCTT TCTTTTTTTT TTTTTTTTAG
7701 GCTAGTGAAG TGAAATTGTG GGAGTGGAAA AGGAACAAAG AAATCGGTAA
7751 CTGGTAGTGA TCAATTACTT GTAAACACTA TTGTACTTGG ACCAGCCCAG
7801 TAGGCCTTTT TTAAAACTCT GAGTTACCTC TCTTTCCTTT CCTTGAGCAG
7851 TGCCATTAAT TCTGTATCTG GGGCAATCCT TTCTGATGTT CTCTGGACCT
7901 GGCTCTCTCT CCTTAGGAGA GGCCAGGAGA GTAGCCAGAG AGCATGTCAT
7951 TTGTAGCTGA GGTTAAAGTG TGGAGCTATC AATGGTGACC TGGCCTCTTG
8001 GCATGTTAGC AAGCCAGAGG ACCTTGACAA CTTTTTTGAT GATTGTCCGT
8051 TCACCCTGAT CAAAGGTGTT TGGCTTAGGA GGAGGGAAGA AAAGCTACCC
8101 CTATTAGTCT TGATGGCCCC AGCGTGGGTC TCTATTGCTT GACCTGGTTC
8151 CTAGCAGCAT TATCAGAAGG AAAATCCACC GCTCTTAAGG CTCCTGGGAA
8201 CTTTCAGGAC TTCCTTTCTC AGGATTGCAA ACATAAGACT ATTTGAGCTT
8251 TCACTTTTGA AAAGCGGTTA CTAATACCTA TACTCTGGGA AAGGGCTAAT
8301 GCAGATAGAA GACTGTGGTC ACTGCATCAG GCAACAGACC ATTTCCGCTA
8351 AATTTAGTGA CTCCAGGAAG GCCAGTGAAG AAATAACACA CGTAGCAACC
8401 AGAGACTGTG TTGTAATATG TTGGCTGACA GCAGGGTACT TTCTGTGATG
8451 CTGAAAGCCA CATTCATTTT CTCTCCCCTC ATCCCCATCT AAGCAAGCCT
8501 GGTAGAATCA TAATTACAGT AATAGGTACC ACTTATTGAG TACTCTGTGC
8551 CAGACACCCT CCTGAGCATA CGACATGCAT AGCACATTTA ATCCTTACAA
8601 TGACTTAATA AAATGTAGTA CTAGTCTTAC CTACTTCGAG AATAGGGAAA
8651 TGGAGGTTAC TTGTTTAAAG TCACAGAGCT AATAGGTAGC ATAGCTGAGA
8701 TTTGAACTCA GGCATTCTTA CTCCTTGCCT GCAAGAGTCT CTTGGCATTC
8751 TTGAATGCAA GCATATTTCT TAACCTCACT GAGGCTCAGT TTCCTCTTAT
8801 ATAATATGGG GTAAAGAGCC CTCACCCTGC CTGCCACACA CTGGTAGTGT

FIGURE 3-3

8851 CAGATAACAT TGAAGGGTGT TAGTTTAAAG GCTTCATGGA CTCTATAATG
8901 TCAACAAAAG TGCTGTTAAC TTTCTTCTGG GTCTCAGGCT CCTGATGTAG
8951 AGTCAGTGGA GCAACCCTGC CATCTGCTGT TATGCTGTTG ATGTTGCTGC
9001 CACACTTACT AACCTAAACC TTTGATTCTG GCTGTGGCCT TCTCCAGAAG
9051 GTGTTTACTC ATTTGTCCAG TTTATCTTTT AGGAAACAGC CAGCCCGTAG
9101 ATCATTAAGG CTGGCTATTG GACAGGGGGC TGGGGCCTGC CTGACAGAGG
9151 AAGGAAGGGC AGACATCTGG TTCTTCCTCT GCCCCTACAA GAGACTCCAG
9201 CCTGACCACA GAGTGGTACT CCTAGGATGT AGCAGCAGCA TATGAGCTTG
9251 AATGTGCCTT AATCCTGCTC TTTACTTTGA GAAGAGAGAA CTAAGGACCC
9301 ACAGATGTTT CACAGCTTCT ATAGGAGGCA GAGGTAGAAA AATGGAGAGA
9351 GATGAGGCCA GAGATAGATA ACTGATATTA ATTAAACGTT GTATTAAGAA
9401 CCTCACTTAG ATTATCTGAT TCAATCTTCA TAATAACCCT GCAACCCCCA
9451 CCTTTTTTTG AGAACAGGGT CTTGCTCTGT TGTCCAGGCT ACAGTGCACT
9501 GGTACAATCA TAGTTCACTG CAGTGTCAAC CTCCTGAGCT CAAGCAATCC
9551 TCCCACCTCA GCCTTGCAAG CAGCTTGGAC TACAGGCGTG CCACCACACC
9601 TTGCCATTTT TTTTTATTTT AAGTAGAAAC AAGGTCTTAT TAATACTATG
9651 TTGCCCAGGC TGGTCTTGAA CTCCAGCGAT CCTCCTGCCC CAGCCTCCCA
9701 AAGTGCTTGG GATTACGGAA GTAAGCCACT GTGCCTGGCC AGTGCAACCC
9751 CCATTTTATA CTAAAACAGG AAGGCCCAGA AAGGTTTGGA GTAACTTGTC
9801 CAGGGTCACA CAGATGATAT TTGAACTCAG GTCTCCCTGG CTCCCAAGAG
9851 AGTCTGCTTT CCACTAGGAC TCCCAGGAGA AAAAAAAAAA AAAAAACAGT
9901 AGACTTGGAG ACAGAAAATC TGATTTGAGT CTTAGTTGAG CTAGGCTAAC
9951 TGTGTAACTG TGGGCAAGTT CCTTAGCCCC TGTGAGCCTC AGTTTCTTAT
10001 CTGTAAAATG TCATAAAAGA AATCCATCTC ATGGAGTAGT TGTGATGATC
10051 AAGGACTCTG AAAACATTAG AATGGTTTAA TGTGAAGGAT TAGCAGCAGC
10101 ACATGGCAAC ATTGTGCATC TTATATTAAC TATCCAAATA TATCAAGCGT
10151 CATTTGCTAT ATATAAAAGT CATCAAATTA GGCACTGTGG GGGATACGGA
10201 GTTGGCATAC TAGCCTGGCC TCTTAATTAA TTCATTAATT AGCTTATTTA
10251 TTTTTGAGAT AGGTCTTGCT CTATTGCCCA GGCTGGAGTG CAGTGGCATG
10301 ATGATAGCTT ACTATAGCCT CAATCTCCCA GGCTTAAACA ATCCTCCTGA
10351 GTAGCTGGGA CTACAGGCAC ACACTACCAT GCCCAGCTAA TTTTTTTTTA
10401 ATTTTTTGTA GAGACAGGGT CTTGCTCTGT TGCCCAGGCT GGTCTCAAAC
10451 TCCTGGGCTC GAGATCCTCC CACCTGGGCC TCACAAAGTG TTGGGATTAC
10501 AGGTATGAGC CACGGCACCT GGCCTGGTCT CTTAACTGGT TCCCTAAGAC
10551 AGCTGGAAAT AGAGAATGTC ATGGAGCATT CCTAACCATG GGCTCCAGCC
10601 TGGCTTTCAT TCTGTTTCTC CCCTGAAACA ACATTCCTTT AGTAATATTC
10651 CGAATAACAG CTTCATCAGT CTGTCTACCG ACCACTCTTC AGGCTTCATC
10701 TTATATGACC TCCCAAACTG CACTAAGGGT TGTATTAGAG AAAAGTGGAT
10751 AAAGTTCGGA GTCAGGCTGC TTGAGCTTAA ATGCCAGCTT CACTTACCAG
10801 CCACCTGACC ATGAGTCAGC TGCTTAACCA TTCTTTGCCA CAGTTTCCTT
10851 GTCTATGAAA AGGGAAATGG CTCCCACCTC AAAAAGTTGT TAACATTAAA
10901 TTCAATCATG TATTCAAAGT CCTGAGCAGA ATGTCTGGCC ATGACTGGGA
10951 CTTAACAGAT GTTAGCATTT ATTATTAGTA TCTGTCAGTC TTGAAATGTT
11001 CTCTTCCCTT GGCTTTCATG ACATTCCACA CTCTCCTGGT TTTCTCTTAC
11051 CTCTCTGGTA ATACCTGTTT GCTTATCCTT CTTTGTCCAG CTCTGGGATG
11101 TTACCATTCC TTCAGGCGTG CTGTTTTCTC CTTAGGCAGT CTTACACACA
11151 CTCATGACTT CCTTCCATTG TCCTCCACAC ACTGATGACC CTAAAATCAG
11201 TATCTCCAGC CTAAACCTTT CCACTGAGTT CTAGACCCAT ATGTTGTACT
11251 ATCAACCTGG CTTGTCCATT TGAATGTCTT CCAGGCACTT CAGACTCTCT
11301 TCTCTAGACT TTGCTGGACT TTCACTCTTC CCCCTAAAAC TGGCTCCTCT
11351 TCCACTGAAA CATGTATGTC ATTGAGAGGC ACCACCATCC ACCCAGTGCC
11401 TAAGCCAGAA ACCTAGGAAT CCTTGATACC TGTTCTCTCT CATCCTGCAT
11451 ATCCAAGCCT ATCAGTTTTA TCTCTAAATT ATATTTTGGT AGGTTTACTT
11501 CTTTCCTTTT CTCCCACCAC CACCCTGCTC CAAGCTACCA TCATCTCACC
11551 TGGATGTCTG CAATAGCCTC ATCTCCCACA GCCACTCTGC ACCCCCTAAT
11601 CTGTTCTCTA TAGAGCAGTT GGAAGGAGTG ATTTTTGTTG TTTGTTTTGT
11651 TTTGTTTTAG ACAGAGTCTC ACTCTGTTCC CCAAGGCTGG AGTGCAGTGG
11701 CACAATTTCG GCTCACTGCA ACTTCTGCCT CCCGGGTTTA AGCAATTCTC
11751 CTGCCTCAGC CTCCCAAGTA GCTGGGATTA AGGCACCGGC CCCCATACCC

FIGURE 3-4

11801 AGCTAATTTT TATATTTTTA GTAGAGATGG GGTTTTGCCA TGTTGGCCAA
11851 GCTAGTCTCG AACTCCTGAC CTCAAGTGAT CCACCTGCCT CGGCCTCCCA
11901 AAGTGCTGGG ATTACAGGTG TGAGCCACTG CACCTGGCTG GAAGGAGTGA
11951 TCTTAAAAAA AAAAAAAACA AAAAAAAACT TGACTGTGTC ACTCTGTGTT
12001 GTCTCTCCTA CCTTGTATAC TTCCACAACT TCCCAGTGTT CTTGGATAAA
12051 GACCAAAATC CTTAACTTGG CCAGGCGCGG TGGCTCACAC CTATCATCTC
12101 AGCACTTTGG GAGGCCGAGG CAGGCAGATC ATGAAGTCAA GAGATTGAGA
12151 CCATCCTGGC CAACATGGTG AAACCCCATC TCTACTAAAA ATACAAAAAT
12201 TAGCTGGTCG TGGTGGCGTG TGCCTGTAGT CCCAGCTACT TGGGAGGCTG
12251 AGGCAGGAGA ATCACTTGAA CCTGGGAGGC AGAGGTTGCA GTGAGCCCAG
12301 ATCACGCCAC TGCACTCCAG CCTGGTGACA GAGTAAGACT CCATCTCAAA
12351 AAAAAAAAAA AAAAAAAAAA TTCCTTAATT TGGCCTACAG TAGAGCCCTC
12401 CGTAATGTGG CCTCTCTCCA CATCTCCACA ACCTCCTGCT CCCTGCACTT
12451 CAGCCTCACC TCTCTTCTGG ACAGGCCCTC CTTCTGACAA GGGCTTTGTT
12501 CATTCTGCTC CCTCTGCCTA GAATGCCCCC TTACTCTGTT CACTTAACTC
12551 CTGCTTATCG TTTAGATCTT TACCTGGATG GCTCAGAGAA ATATAGAAGT
12601 AATTCCTCAC CCTGAAAAAT AGGTTAGGTC CCTGTTTTAT GTTTTCATAG
12651 ACCTTTCCTT TGAGGCTTTT TTTAAAAAAG TAGTTTTAAT CTCACATTTA
12701 TTCATGTGAT CATCTCCTTA ATGATATCTT AAGACCTCTA ATAGAACAAT
12751 TTGGTCATGG ACTGTGGGGT TTTTGCCCCT CATTGTGTCA GCACTGAGCA
12801 TATTGTTGGC ATAGGAGGGA TATTTGTTGA ATGAATTGCT AGAGGTGGCC
12851 AAGAGATATG ATGTAAGTCA GGCTTTTCCC TGCCCTTCCC CTTCCCCTTC
12901 CCCACATCCT TCCTATAGCA GCCACCGTGG CTGCAGTTAC TGTAAATGGC
12951 AAGACGGAAT CAGTTCCGGA CATTGGGTTG TTTTAGAAAA TTGCCTGCAA
13001 GTGTCAGGGT GATAAGTTAA AGCTTTGTCT TTTGCCCTCA GAGGAGCTAT
13051 CCCATAGTGA GTAGAAGCCA GAGAAGCTGA CCCCAGGAGT CCTTCTTTCC
13101 AGCAGCAGGT CTTGAGCTGC ACTTCTCTGT AGCTACAATC CAGGCAGGAA
13151 CAAGCCCTAG GTACCTCCGG AGAGGAGGGC AAGAGAGGAA GAATGAGTTC
13201 AGCTACTCTA GCCACCAAAC TGATTATGAA TTGCCCTGAA ATCTGAAAAA
13251 TTTCAATTCC AATCGTAAGT TTGTTTTGTT TCATTTTGTT TTCTTAAATT
13301 GTATATTTGA AAGATGGCAT TAACTAAAGA TATATATTCA ATATAGAGTG
13351 GAAAAAATGG AATACTTGCA TAGTATCTTT TACTTATAGG TGATTTATGA
13401 TGGGGAGTGG GGTGGATAGG TTGGCAGTTC CCCCAAGAAG TTGGAAATGA
13451 AGTTTGTCCT CTGTGAGTTG AACTAATTAG ATCCACAAGT AATGAAAGCA
13501 GTATTGTGTT GTAGTTAAGA GCACACTCTA GAACCAGATT GCTTAGTTTC
13551 AAATCCTGGT TCTGCCTTTT ATTATCTGTG TACTTTGGGC AAGTTACTTG
13601 CCCTTTGTGT GCTTCATTTT TCTCATCTAG AAAATGGAGA GGCCAGGCGT
13651 AGTGGCTCAT GCCTATAATC CCAGCACTTT GGGAGGCCGA GGCGGGCAGA
13701 TCACCTGAGG TGAGAAGTTC AAGACCAGCC TGGCCAACAT GGTGAAACCC
13751 TGTCTCTACA AAAATACAAA AATTAGCCAG GCATGATGGC GGGTGCCTGT
13801 AATCCCAGCT ACCCAGGAGC CTGAGGCGGG AGAAACACTT GAACCTGGAA
13851 GGCAGAGGTT GTAGTGAGCC AGGATTGCAC CACTGCACTC CAGCCTGGGT
13901 GACAAGAGCT AGACTCAGTC TAAAAAAAAA AAAAAAAAAC AAACTGGAGA
13951 TACAGGCTGG GTGCAGGGCT TACACTTATA ATATCAGCAC TTTGGGAGGC
14001 CTAGGCGGGA GGATTGCTTG AACTCAGGAG TTTCAAGATC AGTCTGGGTA
14051 ACAGAGCAAG ACCTCATCCC CACAAAAAAT CAAAAATTTA GCCAGGCATG
14101 GTGGCTCATG CCTGTGGTCC CAGCTACTCA GGAGGCTGAG GCGAGAGGAT
14151 TGCTTGAGCC CAGGAGGTTG AGGCTGCAGT GAACCATGAC TGCACCACTA
14201 CATGCCAGCC TGGATGACAG AGCAAGACCC TATCTCAAAA AAAAAAAAAA
14251 AAAGAAACGA GCCAGGCGCG TTTGCTCACG CCAGTAATCC CAGCACTTTG
14301 GGAGGCCAAG GCAGGTGGAT CACTTGAGGT CAGGAGATCG AGACTAGCCT
14351 GGCCAACATG GTGAAACCCC ATCTCAACTG AAAATACAAA AATTAGCCAG
14401 GCATGGTGGC ATGCTCCTGT AGTCCCAGCT ACTCACTTGG AGGCTGAGGC
14451 ACGAGAATCG CTTGAACCCA GGAGGCGGAG GTTGCAGTGG GCCAACATCA
14501 TGTCACTGCA CTCCAGCCTG GGAGACAGAG CGAGACTCTG TCTCAATAAA
14551 TAAATAAACA TAAAATAAAA TAAAATAAAA TAAAATAAAA TAAAAAAATA
14601 TGGAGGCCAG CAGGCACGGT GGCTCACGCA TGTAATCCCA GCACTTTGGG
14651 AGGCCGAGGG GGGCGGATCA CAAGGTCAGG AGATCGAGAC CATCCTGGCT
14701 AACACAGTGA AACCGCGTCT CTACTAAAAA TACACAAAAT TAGCCAGGCA

FIGURE 3-5

14751 TGGTGGCAGG CACCTGTAGT CCCTGCTACT CAGGAGGCTG AGGCAGGAGA
14801 ATGGCGTGAA CCCGGGAGGC GGAGCTTGCA GTGAGCTGAG ATCGCGCCAC
14851 TGCAGTCCAG CCTGGGCGAC AGAGCAAGAC TCTGTCTCAA AAAAAAAAAA
14901 AAAAATGGAG GTTGGGCGCG GTGGCTCGCG CCTGTAATCC CAGCACTTTG
14951 GGAGGTCGAG GCGGGCGGAT CACCTGAGGT CAGGAGTTCC AGACCAGCCT
15001 GGCCAACATG GTGAAACCTT GTCTCTACTA AAATTACAAA AATTAGCCAG
15051 GCACGATGGC AGGCACCTGT AATCCCAGCT ACTTAGGAGA CTAAGGCAGG
15101 AGAATAGCTT GAACCTGGGA GATGGAGGTT GCAGTGTGCT GAGATCGCGC
15151 CACTGCCCTC CAGTAGAGTG AGATTCCGTC TCAAAAAAAA AAAAAAAGAA
15201 GAAATGGAGA TACAAACTTA CTACCTACCT CCTTACAACC TACCCTCACA
15251 GTATTACTGT GAATAAAAGT GTGTGTAGCA CTGGGAACAC TATTCACAGA
15301 GCACTCATGA ATGTTTGTTC TTTGTTATTA GTTACTAGAG AGGCAAATGT
15351 CTGCCAGGGC TGAATAATAT GTGTGAATTG GTGATTGTCG CACATATCTA
15401 AAGAAGTAGT TATTTTTTTC AATTAAAACT TAGTTTAAAA ACCAATATAA
15451 GGCCGAGCGC AGTGGCTCAC ACCTGTAATC CCAGCACTTT GGGAGGCCGA
15501 GGTGGGCAGA TCATTTGAGG TCAGGAGTTC GAGACTAGCC TGGCCAACAT
15551 GGTGAAACCC TGTCTCTGCT AAAAAAAAAA AAAAAGTACA AAAATTAGCC
15601 AGGCATGATG GCAGGTCCCT GTAATCCCAG CTACTTGGGA GGCCGAGGCA
15651 GGAGAATTGC TTGAACCCAG GAGGTGGAGG TTGTAGTGAG CCGAGTTTGT
15701 GCCACTGCAC TTCAGCCTGG GTGACAGAGG GAGACACTGT CTCAAAAAAA
15751 AAAAAAAAAA ACCAAAACCA ATATAATAAA TAAGTGGCCA GCAATGAAAC
15801 AGAAAGTGAA AAGTTAGTGA AGCAAAACTA GTACTGTATT CAGATAAAGA
15851 TGCTGAATCT AGATTTGGTC ACCAGAATAG GGTCCTTTGT GGCAACCTGG
15901 GCTAGTTTGG CTGACTCACC ACTGCCAGGA TGAAATTTCT TTCAGTGGCT
15951 ACTCATTTCC CTTTATTTTA AGTCCATGCT CACAGAGCAA CCTTCTGATG
16001 CCTAATTCAG CTTCCTGGGA TACTTAATAA CAGGAAGGGT CTGGAAGTAG
16051 TACCTGTATA GGGGATATGA GTGTTCTGAT TTTAATAGTC AATTCATAAG
16101 TGTACAGAGG GTTTGATAAA TGGTTAGGTC AGAACCATCA CAGAATGTCT
16151 ACACCTCTTT GGACATTAGG AAGGTCAAAA ACCTGAAAGG CCAAAAGCTA
16201 GGCCTAGATT AGGGTCATTC ACCAAGAAAA CATCAGCCTT GAAGAGTTCT
16251 CTGGGTGGTC CACCAGTCAA CCTTCCTTTG ATCACACCTC CTTCCTCGTT
16301 GCTTCTTTAA GCATTGACCT GTAATGGGTA TGGAATTTTT TGCTCACCTA
16351 ACTCCTTCCT TTTACAGAGG AAGAAGTTGA AGCCCAGAGA GATTTAATGG
16401 CTTGCCTAAG ATCACACGCA GATTTTCTGT TAACCAGGGT GATTTTTCAG
16451 GTGTTCCCTG CCAGACGAGG GCTTTTTTCC TTGAATTGCC TAGAGATTTC
16501 TTGAGATATC CGAAGCATTT TTCCCAGTGC AGCCTGGAGA AGGATGTCCC
16551 TGTCAACACA GCATTTGTTA CTCAATGTTA GACATTCAAT TTTCTAATTA
16601 GTATCATGGA GCAACAGTGG ATGATTATCT ATAAGGGGTT GCAATTCCAT
16651 GCTTATGTGC TTACAGCCCA TATAGACAAA TATCAGCTGT TAAAATGACA
16701 AGGCAGTAGA GATGTGGCCC CAGGACAAAG GCATACTCTG CTGTTAGTGA
16751 ACACTAGTTG GCCAGCAAAT TTCACATGGG CATATACACG GCCAACTGTA
16801 GACTTTAGGC ATTTATACCC ATTCAGAGAG CCAAACTGGC AACTAAAGAT
16851 CAGCATTCTC TTTGGCATTT CAGCTTTGCG TTCTGTTAAA AATCACTGCT
16901 TGCTTAAATA CCTCTGATAG CTCTTCACTG CCTGTAGGCA ACTCTTTAGC
16951 CTAGCAGACT TGGTCTTTAG TGCTCTGCCC CTACTCTCTT CCACCATTCT
17001 GGCCTCCTGT CTAATTGCTG CCCATATGTG CCATGCACTA GAGCTTACAG
17051 ACCTGCTCAG CGTTATATGA GCATACCATA CTCTTTATGC CTCAGTGCAT
17101 TTGCACATGT TGTTCCTTCA GGCCAGAATG CCTGTTACTG CCTGGCAATC
17151 AGCCTATTAG AGTCTGCCAA TACCATCCCA TCTTCTGTGG AGGAGCCCCC
17201 CGCCAAATCC ACCCATACCT CTCCCCACCA ATCAGAGACT TCTTCTCTCT
17251 TTGTTATTCT CTTCGTTATT CTCTTCATAC CTCAGTTATA TCCATTTCAG
17301 TATTTGTTTA CACATCTAGC ATCACTCTTA GAGTGTGAAA TTCTCCAAGT
17351 GTGGAGCCGT ATCTAGTTTG TCTTTGTATC CCAGAGCTTA GCAAAGTGCC
17401 TAGAATGTAG TGGGTGCTCA GAGTGTTTGC TGGGTGAATG ATGTATTTGT
17451 TGAACGACTC TTTGGACACT TGAATAAAGT CCATCCAGTA TGCACCATTA
17501 CCATCTCTTC GCTCTACAAT ATTCTTTTAG GCAAGAGCTT ATCTTTTGAG
17551 GTGATAAGAT AAGCTCAAAC TTATGTAGAC TAAGACCTCA GTCTGTAAAT
17601 GTCATCCCTA AGTCTTAAAC CATCAAAACC AGGGCCTCAA GGAATGGCAT
17651 GCCTTCTGCA ACTGTAGCAA CCTGCTGTGC TTATTTTGCC GTGTTTTTCA

FIGURE 3-6

17701 TTTTTCCCCC AAAAGCTAGA GTCCCTTCTC CCATGGGCAG TGCTGGAAGT
17751 GTGCTAACAA ATTCTTTCTC CATACTGCTT ACGATTACAA AAAAAACCCT
17801 CAGCATCTCA TGCCAGACTT GAGTTAAGGT TGTTTTCTTT TGTGTGTCAG
17851 CTGTATTCTG GTCATGACTT CCTGATGATG CCCTATAGAG ATTTTGCTGA
17901 GATCAGAGGG TGCTCCACTG CCATCAGTAG CACTGACTCT TGCAGAAGCA
17951 CCGTTTCTGA AGTTGGCTAA TGTCATCCCT CACGTTTGTT TGTTTGAAAT
18001 TTGTTTTAGT TCCAGAGATA GCACTTTCAT GGAATGACGC TATCTTCTAG
18051 AATCACTTTT TTTTTTTTTT TGAGTTGGAG TCTCGCTGTG TCGCCAGGCT
18101 GGAGTGCAGT GGCACAATCT CAGCTCACTG CAATCTCCAC CTTCCGGGTT
18151 CAAGTGATTC CCCTGCCTCA GCCTCCCGAG GAGCTGTTAC TACAGGCGCA
18201 CACCCCCACT CCTGGCTAAT TTTATGTGTT TTAGTAGAGA CGGGGTTTCA
18251 CCGTGTTGGC CAGGATGGTC TCGATCTCCT GACTTTGTGA TCTGCCTGCT
18301 TCAGCCTCCC AAAGTGCTGG GATTACAGGT GTGAGTCACC GCGCCTGGCC
18351 TAGAATCACC TTTTTATACC ATAACGTGAG CACCACTGCC GCGTCACCAA
18401 GGAAAGAGAG AGGCAGCTAC TGTGGGGTTA CAAATGGGTA AGAGTGGCAC
18451 CAGGAAGGTG AAAGTCTCTA CTTAGCCAAG GCTTAACAAA ATGTCAATCA
18501 CCAAACATTT ATTTATTAAG CTACGTTCAG GATAAGAAGA TGAACAAGCT
18551 ATCTGTACAT TCATTTTCTC GTTTGTAACA AGGTAATGAT AGTGATCTAT
18601 CCTGCCTGCC TCTGAGGGTT ATTGTGAGAA TAAAATGAAA TCAAGTGGAA
18651 AAGCACTTAG GAAAAAGAAA AGCATTGGTT TTCAATTGTT AGTGTGGATC
18701 AGAAACACTG GGGCTTGTTT AAAATGCAGA TTCTTAGCCC CAGTCTCAGC
18751 GATTCTGATT CTGTATATCT GAAGTGGGAC TCAGGAATCT TGATTTTCAA
18801 CAAGCTGACC AGAGGGTCCA ATGCTGCTAT TCCTTTAGTT ACACTTTCAG
18851 AAATATTACT GTAAATCAAA TGGCAAGAAT AAAATAGTTA TTTGAGGCAG
18901 TTTTAGTATG TTGGACCTGG AGTCCAAAGA CTTGGGTCAA ACTCCAGCTT
18951 TGTCAGTTCC TAGACCTGTG ACCTTAAACA GCAACCTTCT CTGTGAACCT
19001 TAGTTCCCTC AGGAACGGCT CTGGTCACCT CCTGCTGTAC TCCATTGATG
19051 ACTCACCACA TAAGGCTCCC TGGGAGTCCC CCAAACCTTT GCTCTCTTAA
19101 CTCCTTTTAC AGCCTCCTAC ATCTCCTGCA GGTGCTGTCT TCTCCTCCTT
19151 TTTCCAGGCC CTGCTCTGAC ACAGCATTCA TTCTCCTCTG GGAAGGGTTC
19201 CTTCAATGTG TCTCCAAGCA CATCACACCC AGGAAGGACC CTGTGGCCAT
19251 ATCTGTCTAT CACCAGATCA AACTACGTGA AGGCAGGCAC TAGGTACTGT
19301 CAGTGCCCAG CATAGGCCTG GCCCATACCA GGTGTCCACA GATGCCTAGT
19351 AAAGAAACCT ATGATTCAGG ACCCCCATGA TGAGCAACTA TAGCACTAGA
19401 ACAGTGATAA TAACTAATGT TTATAATGCA TCTTCAGTTT ACAGAGGGCT
19451 TTTGTACTCA TCATCTAGTT TAGTTCCTGC AACAACCTCT TGAGGAATAT
19501 AGCACAAGCA GGACAAGGGA AGCCCAGAGA TGTTAAATAA TTTATCCAAG
19551 TTTATGCTGC TGGGAAGGGC AGCACTGAAA TTAAAAGAAA AGTTTTCTGA
19601 GCTCAAATCC CATGCCCTTT CCTCAATGTG AGCTCTAGCA AGGTATTCAG
19651 GAATCCTGCC TCTACAGTTC AGAGCCTCAA ATTGCTGGGT ATGTTGAGTT
19701 CTTGTATCTG ATTTTTCTAG ATTTCCTGCC CACATTCTTA CTGTCTGGAT
19751 ATCAGGAAAG AGTTTATCAA ATGCCTGTGG AAATCCAAGA TAAGGTCTCA
19801 TGATGAGTAA CCCAGTGAAA ACATGAAGTC AAGTCTAACT AGTCACTACT
19851 ATTTCACTAC TGCTGACTCC TGATGATCAG CTCCTTTTCT AAGTGCTTAC
19901 TGTCCACTTA TTCCATCATC TGCCTAGAAT TTATGTGAAG GAATCAAAGC
19951 AAAAGGATCA TAAGGCTTCC TTTTTCCAGT ATGTTTTTCC TCCTTTTTGA
20001 AAACTGGGCC AGTTAGCTAT CTCCATTTTT ATTTCATGAA TACATCCCCA
20051 GCGCCTGGTA TATAGTAGAT ATGGAACATT ACACTTTGGA GATATTGCAC
20101 CCATTCTCCA GTTTCTCCAA AGTTACTAAC AATGGTTCCA TCACTGTGCC
20151 AACATATTTT CTTTTTTCAA TATATTGGGA AATAATTCTC CCAGTCTGAA
20201 AATCTGAACA CATTTCATGT GACTTGGTAT CCTCATATGT CTTGGGCTTC
20251 CAATTCTCCA TTCCTAGTTT CAAGTTCATG AACTGTAAAA CAAAGGATTA
20301 GACTAAATCT CTAAAGTTCT ATCCAGATGC CAAATTCTTT TCTCTTTCCA
20351 TGATACCTAA GATAGATGCC AAATATTGTC TTTTACCTGG TGTTTGTGAA
20401 CATGACATCA CATTACAGGA GTAGCAGATA CTAAACTCTC ACTCTGTAAA
20451 ACACTGACTG AGTTCCATGA GCCAGATACT GAAGTGAGCT TGTTCACATA
20501 TGTTCTCATT TAATGCTCAT AACCCTGTGA AGCTGGGAAT TGCTGGGACA
20551 TTTTATTTAT TTATTTATTG AGACGGAGTC TGGCTCTGTC ACCTAGGCTG
20601 GTGTGCAATG GCATGATCTT GGCTCACCGC AACCTCCGCC TCCCGGGTTC

FIGURE 3-7

20651 AAGCGATTCT CTTGCCTCAG CCTCCGCAGT AGCTGGGATT ACGGGGCACA
20701 CACCACCACA TCCAGCTAAT TTTGTATTTT TAGCAGAGAT GGAGTTTCTC
20751 CATGTTGGCC AGGTTGGTCA CGAACACTTG ACCTCAAGTG ATCTGCCTGC
20801 CTCAGCCTCC CAAAGTGCTG GGATTACAGG CATGAGCCAC CATGCCTGCC
20851 CGGGACCCTT GTTTTAGAAG GATGACTGCT GCTATAATGT AGAAAGTGAT
20901 TTGGAAGAGG GGAGGAGTGG GGCACGAAAG ATGGTTAGTA GATGGGGGTG
20951 GTAATGCTTA CCTTTCAGTA TTTGGAGGCT TCGGAGTCCT CAAAAATTCT
21001 CTTCCTTGAT TGGAGTCCTC CCAGCCAATA GAGGGCTTCA CACAAACAGT
21051 TTCTTGGGTT TTGAATTGTT TGACCAGAGC TTTCTTCCGA CAAAAGGTTG
21101 GGGTGATTCA TTCACTTACC ACACCTTGCC TGAACATTCA CTTGGGGCTG
21151 CCGGTTATGA AGGCTATTGT TCTCCAGCCT GTCACAGACG CTTTGAAGAC
21201 CTGTGCCTCA GCTGGTTCTA AGGAGTCAGT TTGTTCAGCT CCGTGCCAGG
21251 TTTCCAACTT ATGAAATGTG CTGGAGATTA ACACCTCTCC TGCCATTTTA
21301 TCCCTACTAT AATTGCCAGT CAAAGGATTC CTGCAGTTGC CTCTGGCAGC
21351 CATAACTGAT GAATGTTCTG CCAGCTGCTC TGAGGACCTA GAAGAGCAGT
21401 TTTCTATCCA GGACCAGTTT CCAAGGGTGG GAGGGTGAAA TATATCCTCC
21451 AGTGTGACAT TTCATCTCCC AGTGATGGGT GGCTTGGGCC CTTTGAAGTT
21501 GGCTCTGAGG AACCACACAC TTGGGTCTGA GCAGCCAGCA GCTTATCACA
21551 TCTGGTGATC AATCCTTCAA AGGTTCCTCC TGAAGTCTGA ATTTTTGGAG
21601 GTCAAATGGA TTCCACCTGG GAGGGGCTTC TGCTTCAACT CAGGACATGG
21651 GGAGAAGGCT GTTCCTCTTC CAGGGGGAGG CAGTTTTCAT GGCATTGAGA
21701 TGTCCTCTCA CTTATTCCCC ACCCACCCAC CAAGTCCTTT GTAAGAGGAG
21751 TAGGGGGAGA GGAGAGCGCC TGCAGCCTCC TGCTCACATT CCTAGACACC
21801 GACTCACTGA GCCCGTCGCC GCTGGAACAG CAGAGCTGTG TGAAATGTCA
21851 AGAGGAGTTA TGCTCATAGG CTCCCTGGCC TCAGTCTCTT TGTGGCTTGC
21901 ATATTCTTCC ATTAGTACTG TGTTCATCAC ATGGAAATCA GAGGGTACAA
21951 TTAAAAGATA ATTTGCTAGT CCCAGACTTA ATTTGGGGCC CCCTTCTTGC
22001 CTGATTGAAT TACAGGGGAA CATAATAGAT TTTTGGTGAG AAATAGTTGT
22051 CTGTGTGGCT GGGAGAAAGA TTGCTCCCAG CTCTCCAGCT GGGCAGCCCT
22101 TTCAGTATCC CGTATGTTAT TTCCCCACTT CCAGCCCACC TCACCTCCTC
22151 TGTGGCCCTT GTGTGTCCCC TCGGCTAGGA TCCTGACCTC CTGCTCAAGA
22201 GTTTAAACTC AACTTGAGAC CCAAGGAAAA TAGAGAGCCC TCTGCAACCT
22251 CATAGGGGTG AAAAATGTTG ATGCTGGGAG CTATTTAGAG ACCTAACCAA
22301 GGCCCAGACA GAGAGAGTGA CTTGCTAAAG GCCACATAGC TAGCCCACAG
22351 TAGTTGTAAC AATAGTCTTA ATGATATTAA TGGCTAACAT TTATCAACCT
22401 TTAATGTGTC CCAGACTTTG TGCCAAGGGC TTACATGCAG TGCATTGTCG
22451 CATTCAAACC CAGACAGTCT GGCTCTGGGC CCAGGCTGAG CTTTGGTATA
22501 GCATGGTAGA ACGTTGTCTA TAATGTCTAG TCTGGGTTCA AATCCTGGCT
22551 TCACTTCTCA CATTTACAGC TGAGTGACCT CAGGCAAGTG ATTTAACCTC
22601 CCTGTACCTC AGTTGCTTTA TCTGTAAAGA GAAAAATCAC AGCACTGTGG
22651 AATAGTGGGG GTTAAAATTC ATTCATACAA GTAGTGCTGC AAGCAATGTT
22701 TAATACAGGG TGAGCACCTG TTCAGTGCTT CCTTCTTCTG GCTGCCTCTG
22751 GGGCTAGAGT GTGGTGTCTT CGTGGTATAG ATAGATAGAT ATGGCTGAGC
22801 TCTGCACAAA CACCAAGAGC TGTTCTTCAC TATTAGAGGT AGTAAACAGA
22851 GTGGTTGAGC TCTGTGGTTC TAGAACAGAG GCCGGCAAGC TATGGCCCAT
22901 TGCCTATTTT AATACGGCCT GTGATTGATT GATTTTTTTT TTCTTTTTGA
22951 GACAGAGTTT CACTCTTGTT GCCCAGGCTG GAATGCAATG GCACGAACTC
23001 AGCTCACCGC AACCTCTGCC TCCTGGGTTC AAGCGATTCT CCTGTCTCAG
23051 CCTCTCGAGT AGCTGGGATT ACAGGCATGT GCCACCACGC CTGGCTAATT
23101 TTTGTATTTT TAGTAGAGAC AGGGTTTCTC CATGTTGGTC AGGCTAGTCT
23151 CGAACTTCCA ACCTCAGGTG ATCTGCCCGC CTCAGCCTTC CAAAGTGCTG
23201 GGATTACAGG CGTGAGCCAC CATGACTGGC CTGATTGACT GATTTTTTTA
23251 GTAGAGATAG GGTCTTGGTT TGTTACCCAG GCTGGTCTCA AACTTCTGGC
23301 TTCAAGCAGT CCTCCCTCCT TGGCCTCTCG AATGCTGGGA TTATAGGCAT
23351 GAGCCACTAT GCCTGGCCTA TATGACCTGT GATTTTTAAT GGTTAGGGGA
23401 AAAAAAGCAA AAGAATGCTT TGTGACATGT GGAAATTACA TGAAACTCAA
23451 ATATCAGTGT CCCAGCCTGG GCAACAAAGT GAGACCCTGT CTCTACAAAA
23501 AATAAAAAAA AATAAGCCAG GGCCGGGCGC AGTGGCTCAC ACCTATAATC
23551 TCAGCACTTT GGGAGGCCGA GGCAAGTGGA TCACCTGAGG TCAGGAGTTC

FIGURE 3-8

23601 AAGACCAGCC TGACCAATAT GGTGAAACCC TGTCTGTACT AAAAACACAA
23651 AAATTAGCCG AGCATGGTGG CATGCGCCTG TAGTCCCAGC TACTTGGGAG
23701 GCTGAGACAA GAGAATTGCT TGAACCTGGG AGGCGGAGGT TGCAGTGAGC
23751 CAAGATCGCG ACACTACACT GCAGCCTGGG CAACAGAGCG AGACTCCGAC
23801 ACACGCACGC ACGCACACAC ACACACACAC ACACACACAC ACGCTGGGTA
23851 TGGTGGCCAG CACGTGTGGT CCCAGGATGC ACTGGAGGCT TAGGTAGGAG
23901 GATCACTTGA GCTTAGGTGG TTGAGACTAC AATGAACCAT GTTTATACCA
23951 CTGCACTTTA GCCAGGGCAA CAGTGTGAGA CTGAATCTCA AAAGAAAAAA
24001 AAAAAAAAGA AAAAAATCTT TCCATAAGTA AATATCTGTT GGAACATAGC
24051 CATGTCCCTT AGTTTATGTT TTATATATGG CTGCTTTTGC CCTATAATGA
24101 CACAATTGAG TGGCCACGAC AGTCTGTATG GCCTGCAGAG CCTAAGATAT
24151 TTGCTCTCTG GCCCTTTACA GAAAAAGTGC CTTGACCTGT GCTCTAGAGC
24201 CATATGTACC AGGTTTGAAA CTCAGCCTCA CAGCTGGGTG TGATGGCACG
24251 CATCTGTAGT CCCAGCTACT CTGGAGGCTG AGGTGAGAGG ATCACTTGAG
24301 TCCAGAAGGT CGAGGTCAAG ATTGTAGTGA GCCATGATGG CATCACCGCA
24351 CTCCAGCCTG AGTGACAGAG AGAGACCCTG ACTCAAAAAA AAAAAAACAA
24401 AAAAAAAAAA CACCCTCACC ACTTATCAGC TATTTGTCTT GAGAATAGTG
24451 ACATAACCCC TCAGAACCTA TTTCCTAATC TGTTAAATGA GGCTGATGAC
24501 GTTTCCTCCT TTTACTGGCA ATTTAAACAT GATGGATAAT AAATGCTAAG
24551 CACTTAACAC AGGGCCTAGA AGATATTAAC TGCTCAATAA ATGGTAGCTT
24601 CTTAACAGTA TTCAAACCCA TGTGCTCTTA TCACATGCAT TGTTGTCCCT
24651 GTGTCCAGTT GGTGGAATGG GAAAAGGCTC CCTTGTAACC CCATCTACCA
24701 TCTTTATCAG ACTTTCCTGC CATGGTTCAC AGTAAGAGAT AGAAGCTGCA
24751 CGGTGACTTC TGGCTCTTTA CAATGGTGAG CGGTGTGTGG CTGGTAAGGG
24801 AGAGCTGATG TCACTGCCCC AAATCCAGTA GTGAGATCTG AGTGTTCTGG
24851 TTTCCTCCAG CAGCCTTGCT TTTTCCTTTA CAATCCTGCA GGCAGGGAGA
24901 CAAGGGCTTT CTACATGGTA GGCTCTGGTT TGGTCATCGT CACAACTGGG
24951 GGCTGTTCAG GTGGGCTCCC ATTCCAGATA CCTAGGCTTA TCAATCCCTT
25001 TTGGCACCCC AGGCCTTTTT CTCCCTCATG CCCCATTTTT CAGTTTGAAA
25051 AGCATGGTTA TCACAGGACA AGTAGAAGAA GCTCCACTGT CCACTGAGGC
25101 CAATGGATGG TGTTCTGCAT GTGAACACTC AGTGAATAGT GAGTGAATGA
25151 GAGTAACCTG GGCTCCATCC TATTTGCAGA GAGCTTTGGA AAAGATTTTT
25201 CTCCTTAAAG AGCCAGAATG AAGCCTGGTA GTGGGAGAGC TCCAGCTCTA
25251 GAGTCACATG AGCCTACATT TAAATTCCAG CCCTGCCACT GACTCCCTTT
25301 TTGACCTTGA GTGAGTTACC TAATCTCTCT GTACCTCACT TTTCTTGTCT
25351 GTAGAGTGGG AATAATTCCT GTCTCAGAGA AATAAAAGAG TGCATATAGT
25401 GTTTGCCACA TGGAGACACA TCAGGTGTAG GTTAATACTC TGGGCCTTGT
25451 TTCCTTATTT GCAACACAGC CCTGCCCTGG AGTGGAAGTG GCACCTCCCA
25501 TTGGTCAGCT CTTGAGGCTG TCCCCAGGAC AGGCAGAGGG AGGGAATGAA
25551 TGGGAGCCCT AGTGCCAGGA CAGAACAGAT GGCAGCTCAG AGCTAGGATG
25601 GCTCTCTGGA CCTGTCTCTC CTACCAGAGG TCCCCCCGTC TGGTGTGGCT
25651 CTTCCTGGAC CTGGCATCCT CTGCTTTTTT TTTTTTCCA CCTCCAAGCA
25701 GAATTACTGT CCTGTAGGCA GCTCCTCTGC TTGAGGACAT CTGGGGCCAG
25751 ATATGTTCAC ACTCTATCCT GCCTTGCCCT TCCCTGAGCT CAGGATGGAC
25801 GCTCAATTGG TCCCAGTTAT TGTCTGCAGC GCCTGCCTGC AGCCTCGATC
25851 CAGCCCAGCT CCACCCCTTG CCTGCAAGGT CTGTTTCCTA ACAGCTGCTC
25901 CAACCACACA CCTCGGTTCT GCGGGAGCCC CTCCTCTTCC TCCCTCCCTC
25951 CCTCATTCAG GGGTGGGACT GAAGAAGAAG GCTAACTTGA CAGCAGCGCT
26001 TCTTTCTTAG CTAGTCACCG GCCCCTGCTC AAGAATGCCA GTGTGTGTGT
26051 AGCCTCCACA GAGAGGTCGT TTTCTCGGAG TCCAGAGGGG CCGCCTGAGC
26101 TTCTGAGAAC TAGGGAGGAG CCATCCCAGC CATGAGCCCC TGTGGGAATC
26151 TGCTGGGGGC CAAGTGGCCT GGAGTCCTCA GGCTCCCGCA GCTGCTCCGG
26201 AGGGAGAGGT GAGCTCAGGG CAGCCTGCCT GCAGCCAGAG GTGCCGGGAG
26251 CCCCGGGCCT GTCATGGTGG CCATCTACAG CCGGCCTGAG GCAGTCACAG
26301 ACGGATTTGC AGCTGAGCCT GTCTATCTGG TGTGGGAAGA AGATGGGGAG
26351 TTACTTGTCA GTCCCGGCTT ACTTCACCTC CAGAGACCTG TTTCGGTGAG
26401 TTGGTCTCCG AGTTCCCCTC TCCATCTCTC CTGGCCCCTG GTCCTGAGAG
26451 GAGGGTGGTC TCCCTAAATC TCCTTCTCAC TTAGTCCTTT ACCATCGGTT
26501 CTGCCGGGCA GAAGCCAGCG GAGGTTATAC CCAAGGAGAA TCGGCCTTGT

FIGURE 3-9

26551 GAGGTACCCC CATTATGTCC TGGAAGTGGT GAGGGGAGGG ATATACCCAG
26601 AAGGAACTTC TTAGGGAGCT CCAGCTCCCC TTCTATCCCA GACAAACCTG
26651 AAGGAGCCTC CAAAAGATGC CACTGACCTG CCCATTGTAG ATGTTACTGC
26701 TTCCGGGGGG AATAGCCCAA ATAGAGTGCT GTTTCCAGCT CTCACATGTC
26751 TTACCTGCGG GCCATGCTGC CTGCCCAGGA ATTTGTCCCA ACAAGCAGGA
26801 TGGGCAGGTT TTGCCAAACT GTGGAAACTG GCAAGTCCTG GGTGTGGGTA
26851 GCCTGGTACA CAGTAGGCAC CTTATAAACG TTTGTTCTCT TAATGGCAGG
26901 CACATTTGCC TCTGGCCTTG AAGGGCTTCT GAGCTCCCAG GTGAATGTAG
26951 TTGCTGGGGA AAGACCTGGG CGAGTGCTTC TAAGACTGGA GCAATGGGCT
27001 TTAGAGTGTT CCTGAGCTGC TGGGCCAGCC CCCACACCTC CTCAGTCCCT
27051 AGGCCTAAGT ACCTCCACGA GCCTCTCTCT GTGGGGCTTC TCAGAGGGAG
27101 ATGTGGAAAC TCTACCTCTA ACCTGGCTTT CTTTGCTCAT TGCCCCACTC
27151 CACCTCCCAT AGAAACTCCC CAGGGGGTTT CTGGCCCTCT GGGTCCCTTC
27201 TGAATGGAGC CATTCCAGGC TAGGGTGGGG TTTGTTTTCA TTCTTTGGGA
27251 GCAGCCTGTT GTTCCAAAAA GGCTGCCTCC CCCTCACCAG TGGTCCTGGT
27301 CGACTTTTCC CTTCTGGCTT CTCTAAGCTA GGTCCAGTGC CCAGATCTTG
27351 CTGCCGGGAT ACTAGTCAGG TGGCCAGGCC CTGGGCAGAA AAGCAGTGTA
27401 CCATGTGGTT TTGTGGAATG ACCGGACCCT GGTAGATTGC TGGGAAGTGT
27451 CTGGACAGGG GGAAGGGGGA AGGGAACTGG TCCTCAATGC TGACTCTACC
27501 AAGCGCCCTG CTAGACACTT TATCCTTTAA TCTCTCAACA GCCTAAAGAG
27551 ATTATATATC CCCATTTTAC AGATGAGGCA ACCAGTTTCA ACAGAGTTAA
27601 CATATGGAGC CTCACTGGGC AGCTTTTTCT GTCTTCCTGA CTTTCTCTCA
27651 TCCTTCAGGG GGCTGCAGGT TTGTTTTCTT CTCCTAGTGG AGAGGAAATT
27701 CTCAGGTTTG TTTTCCTCTC CTAGCAGAGA GTAAAAAAAG GGATAGTTTG
27751 CCTGACTTGT TGAAGGTGTG GCTGAGATTG TTTTCTAAAG AGCCAATGGA
27801 AATTGATCTT GAGTTTAGGA GAAAGCTTTT ACATGTGGAA TTAAGATGCC
27851 AAGTGTTGAA GTAGCCACAT TTCAGGTCCT CATTAATTTC TCTTAATCCT
27901 GGGAAGGCAG CTTAGGAGAA GGGTTGTTCC TTTAGGAGCC AGGAACTATA
27951 CCCCTTTTAC CCTTGGAGAG GCAGGGAAGC CAGGGAGGAC ACAACTTCTC
28001 AGGAAGAGGA GAAGCTAGAG CAGATAGTGA ACTCTCAACC TGAACCTTTA
28051 AGGGCCAGAC CACTAATGCC ACCCAAGTCC ACCTGCCGTT TGTCTTGTTC
28101 TGTCCCAGGC TTTCTGGAGA ACCTGATCTT CTTGCCCCTA CCCCCAAGCT
28151 CCGTTTGCCC AGCTAGAGTC TGGGGGGTAC TGACTGACTT TCGTAGACAT
28201 TCTTCCCTTC CCCAAATAAG AGGCCACATT CCTGAAGTCA CTTCTGAAGA
28251 GATAGCTGCC ACACAGGGCT CTTTCCCCCC AGGGAGGGAC CACCCAGACC
28301 CTCTGCTCTC CCAGGTATCC GTTACCACAT CACTACCTGG TCAGAAAGCT
28351 GTTTCTGCCA TTAGCCCCTC CCTCTTTTAT TATAGGATAT CCTCAAGGGC
28401 TCCTCTTTGG GCCTCAGTTT CATCCTTGGC AGAAAGTAGA AGCTAGACTT
28451 CTTGGGCTCC TGAACAGGGT CCTTGCTGGA TTCTGTGAAA CAAATTAAGT
28501 TCTTGACCCT AGGCCTCTGG GGGAGTACAA AGTCTATGGG AGTTCTGGGG
28551 CTGTGGTTGC AAGGAAAGTG ACGCAACCAG ATTCCATGGG GACATGATCA
28601 GGCGTGACAT GTGAGGGAGG AAGAGGGAGC AAGGGAATGA AGAATACAAC
28651 TTCTGTGTCC CATACACCCC TGCCTGACAG GCCATACATA CTCAGCAGAG
28701 AATGCACTGT CTTTCCTACC ACACTAGCGT GAGGAGTGAG CTGCAATTAC
28751 CACTGTGCTT CCAAGTAAGA AAATACCTCA AATTGGAATT TACAAAAGAG
28801 GTAAATTAGG GAGTGGCTTT TGTCGGACAT CTTTAAAGCA TTTTTCTTTT
28851 TATAGAATTT CACTTAATGT CCAATACTGA TTTAATGAGC TTGGGTTTAC
28901 ACATTATCTC TTGAAGAAAA CAAATGAACC TTTGTGTTCC AAAGCAATCC
28951 ATGTTTAAAG GGAAAAAATT ATGCATAACT CTGCCCAGCT TCACAGTAAC
29001 CTTTGGCAGG TGCCTTAGGT CCTCTGGGAC TCTTTTCCTT ATCTGAAAAA
29051 TGAAGGACTT GGATCAGGTG AATGGTTCCC AGCTCTGCAA CTTATGTGGC
29101 TCCTCAGAGG CACACAAGCT CTTTTCCATT ATTTGCCAAA TAATGGAGGC
29151 CCTGTCTTTA ACTGCAGTAC AACTACACAA AATACTTGAA ACTACAGTCT
29201 TCCTGGTTTT TGGTTGGAAC TGAATCAGTG CACTCTAGCA ACACTTATTT
29251 CTTGCTGTTC GTAGGCTTCA TTATGTGTTT GGTTAATTTT TTAAAACAAC
29301 AATAACATAT TCCATAATAA TTACAGCTTA ATTGGCAGAC TGTTTCAGTC
29351 TATAGGATCT GCAGGAAGGA GGAGTAATAA AGGGATTTTT GACTGAGCTC
29401 TTATGGAACA GAGTCTCTCT AGGCCCCTGT CATATCTGCC CTTCTGGGCC
29451 CTGGGGAAAA GTTGGCATCC CCAGTTGTGG TGCTCTCCAG GTGCCCTCAG

FIGURE 3-10

29501 GCTGTGGTGG AGGGAGCTTC CCATTCTCTC CTTCAGCCCA CTCAATTCAG
29551 AGGCTAGGGG CTGAAAGAAG CTTCTCTACA ACTGGCTGTT CACTGGGAGG
29601 TTAAGGGATG ACCATCCAGC CAGGCCTTCC TCAGGACATG GGAGGGCTTA
29651 TGCTTTAACA TGTGTAAATC CACTGCAATA ATGACTGGTT CTTTTACCCC
29701 ATAAGGTTGA GAATTTACCT GTAAACATTT TTGTCTGAAG AATTTGGATG
29751 TAAGTGAGGG CTGGGCCTCT ATCTTATCTC ACTTGGCTTC TCTCAGCACA
29801 GCACCTTGCC TGCTTGTTCT TACACATCCT AGATGCACAG TAACTATTTC
29851 CTAATTATTA GAAATCTATT AGAATCAATT GATTTCAGCT GGGCTTGGTG
29901 GCTCCTTCCT GTAATCCCAG CACTTTGGGA GGCTAAGGCT GGAGGATCAC
29951 CTGAGTCCAG GAGTTTAAGA CCAGCCTGGG CAACATAGGG AGACCCTGTC
30001 TCTACAAAAA ATAAAAAATT AGCCAGGCAT GGTGGTGTGC ACCTGTAGTC
30051 CCAGCTACTC AGGAGGCTGA GGCAGGAGGA TCTCTTGAGC CTGGGAGGTC
30101 AGACTACAGT GAGCAATGAT TGTGCCACTG CACTCCAGCC TGGGTGACAG
30151 AGTAAGACTC TGTCTCTTAA AAAAAAAAAA AAAAAAGTTG ATTTCTATTT
30201 GGATAGATAA ATAATTCATT TTAGGACCTT TCTTTTTCAC TTACAGAAAT
30251 CTGTTTCATT CTGGGCTGAG AAGCAGGTCC ATATTGCTAG GCATAGGAGA
30301 AAAAGGGGTC TGTCTGCATT TGCCCTTGGT GGTCTCAAAT TGGGGAGGGA
30351 AAGAAATGAA CACTTACTGG CTACCTTCTG TGAGCCAGGC ATCATGCAAG
30401 ACATCTGTAC ATAATTTAAT TCTCATAACC CCATAAGATA TTATTAGCAA
30451 TGTACAAGTG AGGAAACTGA GGCTCAGAGT CATGAAGTAA CTGGCCTTGG
30501 GTGACACAGA TGGTAAATGG CAGAGAAGGA ATATGGATCC AGGTCTTGAA
30551 AGAGAAAATC TCAACTGATT ATCTTTTTTA AAAAACTCAT ATGTTCTCTG
30601 CTGACTCAAA AGGTCTCTGT GTGGATCTGG GTTGACCCAC TGAACTGACC
30651 ATCAGGGTTC CATGCACTTT GTATCTGCCC AAGCCCTCAG AACCCCTCAG
30701 TAATGTTTTG GAAGATGAGT TTTGGAGGTT GTCCTTAGGC ATAGCCTCAG
30751 CGTATGTAGG CCTCTAGGTG ATCTCCCCTA ACCTGAGGAT TTCAGCTCAA
30801 TTCACTCTGG CTCCTCAGGA CAGTGGGATG ACTGGTTCAG ACCTCAGCTT
30851 TACCACCTCC CAGCTGGGTA CTCTTCTACC TACAGCCAGG GCAGATTTTG
30901 ACTTTCACTT GAAACTTCCA AAAATTGAAA GGTAGAAAAA CAGCCTTGGC
30951 TTTGGGAAGA ACGTATGATG TCCATGGCCT CTAAGCATCT GAGGTGGGAC
31001 ATGTTCGAGT AGCACCTTAC AGTTCCAAAG TGTGTTCTGG GTTCTTTGTT
31051 TAAAAGAACA GAGACTGCTG GGGAATTGAA CACTGTGAAG TATATGAAGG
31101 AGGAGAATTG TGCTATTTAA CATTCAGTAC TTGGGCTAAA GGAGAAGCAT
31151 CACGAAGTGT TAACACTCAA AGGGTCTTGA GCTGTCAGGG CTCCAGCTTC
31201 CTTATTTTCA CAGGTGAGAA TCCTGAGGCT CAGCTGTTGA GATGTGCTGT
31251 CTCACTCCGG TGACATAGTA CAGTGGATGT GGCTTTGCAG CCAAGCACAC
31301 ATAGCTTCAC ATTCCAGCTC CATCAATTAT GTATTGGGCA GCTTTGCAGA
31351 ATGATTTGAC TTTAACTCTG CTTTTCAGTC TTCTGTAAAA CAGGGATAAT
31401 CCTGCTACCG TAGGGTTGTC AGGATTAGAG ATAATATAAA TAAGGTACCT
31451 CATATAGGAC CTGGATTATG GCTGGCATTC AATAAATAGT AGCTGTTAAT
31501 TGATAGCTAA GCTAGAACTC TGAAGTCTAC CATGGCAACT TCTTAAGTGG
31551 TCTGAGAACC CAGTTGTGTT CTGTGGCAAA ACACAGCTTA GGGATCCATA
31601 CCCAGCCCTC CTGTCAGCTG TTCACCTTCC AGTTCTTCAG AGACATGTGT
31651 GGCAGTGACT TTGGCCACAT AGCTGGCTGT GCCCTTTAAA GGCATTCCTT
31701 GACACAGATA TGTGGACTGG TGACGTTGCT CTCCAGCCAG GTGTTCTTCC
31751 CAGCAGGCTG GCCTGGCTGT CTCCTGCATG CCTGTACTTG TTTGTCTCCC
31801 TGCTCCCTCT CCTGGGCCTG GCCAGAGCTA CTTGCAGCAA ACAAAAGCAG
31851 GATATTGGCA ATGGAAAGGA GGGTGTGTTC TGGTGCTCCC ATGCCCTGCG
31901 GCGCACATAC CATTGCAAGG GCGTAACAGA GCCCAGGCCT GCATTTGGGT
31951 GCAAATAAGT CTGCACACAG AAGAAAAGAA GGACCTGGTG ACCAGGAGCC
32001 ATGGAACCCT TGTGCTCCCC TACCTGGGCT ACTGGTTCTT GCCACTCCTA
32051 CCATTTTCAG TTTGGAAATA TTTGTTAAGG CTTTGCTCTT CCAGGTCCTT
32101 TGCTTGGTGC TGAGTCTACC AAGAGTAAGT GGGATGCTGT TTTTGTCCTC
32151 AGGGAGCTAA CAGTCTAGTG AAGAAGAAAG ATGGTTGCCC AGGAACTTCT
32201 AAGTCAGAAG GCAGGAGGCA AGAAGGAAGC CCCTGCTCCT ACTGCCAGCC
32251 CTCTGTTGGG CACCCCATAG TTCTTCAGAA CCACATTTAA TCCTCACTGC
32301 AGGCCAGGCA TAGTGGCTCA CACCTGTAAT CGCAGCACTT CGGGAGGCCA
32351 AGGCGGGCAG ATCACTTGAG GTCGGGAGTT CGAGACCAGC CTCACCAACA
32401 TGGGGAAACC CCGTCTCTAC TAAAAATAGA AAAATTAGCC GGGTGTGGTG

FIGURE 3-11

32451 GCATGCGCCA GTAATCCCAG CTACTCAGGA GGCTGAGGTG GGAAAATCAC
32501 TTGAACTCGG GAAGCAGAGG TTGCAGTGAG CCGAGATTGT GCCACTGCAC
32551 TCCAGCCTGG GCGATAAGAG CAAAATTCCA TCTCAAAAAA AAAAAGAAAA
32601 AAGAAAAAAT CCTCACTGCT ACCTTGAAAG TAGGTGATGA CATTGCCATT
32651 TCACAAATGA GAAGTGAAGG GGCTAGCCCA AGATCACTTA GGTGGTAAAT
32701 GGTGGTGCTA AGATTAGAAC CTCAGATCAT CTAGGGAAAA ACACAGATAT
32751 GCACAGAGTT AAGGGGACCC AGGGTATTGT TTGTCCTCTT GTTTCACAGG
32801 TGGGGAAACA ACCCAGAGAG GGAAAGGGGC TTGTCCAAGG CAATTTAGCA
32851 CCCAAGAACT TGAACCCATA TCTCTCTCCT CCTCATTTAG AGCTCATCCC
32901 ACATGTATCT TATATTGAGA GGAGTGTGAG CCACATACCA AGAACAGTCT
32951 TCCCCTCTGC CTCCAACCTC ACTGTGCAGT TTTGAGACAC TTCACAGCCA
33001 TACTCTTCAT GCCATACCCA GCCCTTAAGA CCCTGAAGTT CCCCTTCCAT
33051 AAGACAAGTA GGAAAAGCTA TAGGGTAAAA ATAGCCATCA GTGTTTGTTG
33101 AGCACCCAGG AGGAATTGGG CACTCCAGAA AGATAAAGGG ATTCTCAGGG
33151 ACTTGCTTCT CTAGACTTCC CTAGCTCAGC TGCTTCAACT CATTCCTGCC
33201 CCTCTTCTCT ACCTCCCGCA GTGCTCAGAA GTAGTAGAAC TCACTGTGGC
33251 CTCTCACCTT GCATTGTTGA GTTTTATTTA GACTTTCTCT TCCTCAACTC
33301 TTCATAAGCT CATGAAAGGT GAAGTAGGGT GCCCTGTGTA TTTATCTTTT
33351 ATATCTGCAG TGCTTAGCAA GTTATAATAA TGCACTTGCC TGGCAAAAGG
33401 CTTTCTCTCA TACATTAGCT TATTTCCTCT TGACATTGGC TCTTTGTAGT
33451 AATAGGATGC TATTAGTTAT TTTCAATGAG AGAAAGCTAC TAAGAGAAGT
33501 TGTCCAGCTA GTGACAGTAA GTGGCTGATA AAGTGAGCTG CCATTACATT
33551 GTCATCATCT TTAATAGAAG TTAACACATA CTGAGTTTCT ACTATATTGG
33601 GTCTTTTTTT TTTTTTTTTT TTTTTTTTTA GAGACGGAAT CTTGCTCTGT
33651 TGTCCAGGCT GGAACGCAGT GGTGCAATTT TGGGTCACCA CAACCTCCGC
33701 TTCCCAGGTT CAAGCGATTC TCCTGCCTCA GCCTCCTGAG TAGCTGGGAC
33751 TACCAGTGCA CGCCACCACG CCCGGCTAAT TTTTGTATTT TTAGTAGAGA
33801 CAGGGTTTCA CCATGTTGGC CAGGCTGGTC TTGAACTCCT GACCTTGTGA
33851 TCTGCCCGCC TCAGCCTCCC AAAGTGCTGG GATTACAGGT GTGAGCCACC
33901 GCGCCCTGCC TATATTAGGA CTTTTATATA AGCTATCTCT AGCTAGCTAG
33951 CTAGCTAGCT ATAATGTTTT TTGAGACAGA GTCTGACTCT GTCACCCAGG
34001 CTGGAGTGCA GTGGCGTGAT CTCGACTCAC TGCAACCTCC ACCTCCTGGG
34051 TTCCAGTGAT TCTCCTGCCT CAGCCTCCCG AGTAGCTGGG ATTATAGGTG
34101 CATGCCACCA CGCCCAGCTA ATTTTTTGTA TTTTTAGTAG ACCAGGTTTC
34151 ACCATGTTGG CCAGGCTGGT CTCGAACTCC TGACTTCAAG TGATCCACCC
34201 GCCTCGGCCT CCCAAAGTGC TGGGATTATA AGCATAAGCC ACTGTGCCCA
34251 GCTGCTCTCT ATATTTTTAA TACATATTAT TTCCATTAAT TTTCACAGCA
34301 GTTCATTTTA TAGATGAGGA AACTAGGCCA GAGAAGTAAA ATATCTTGCC
34351 CAAGATGATG TAACTAGTAA GTGGCAGGAT CAAGATTCAA ACCAAGCAAT
34401 GTTCAAACCT CTTGGAAGCA AGAATGTGGC CACTGTGGAA GGTGCAAGGC
34451 CTTGACAACA AGAATAGGGA AAAGAAGGAA CTAGAAGGAA AGAGATGGCA
34501 TGGGCTCAGC AGGCCAGGGA GCTCTTAGCT GTGTGTGTTG GGAAGCTCAG
34551 AAGGGAGGAA GAGGTTGTCT GTGCAGGTAA GTCCTGAGAA CACACCAGAC
34601 TTTTGAGAGG TGGAGCTTCA TAGCCAGGTC ATTAGGGGAG AAGGGAGCTA
34651 TAGATTTTTT TTTTTTTTTT TTTTTTTTTT TTTTTTTTAG AGACGGGGTC
34701 TTACTATGTT GCCCAGGCTG GTCTTGAACT CCTGGGCTCA AGTGATCCTC
34751 CCACCTCAGC CTCCCAAAGT GCTGGGATTA GAGGCATCAG CCACCCCGCC
34801 CAGCGAGCTA TGGATCTAAC ATGTACATCT TACACAGTGC TAATAGAATG
34851 TTGGGTTTCT TCCCCAATAT TTTATTTTGA AAAAAAATTC AAATATATAG
34901 AAAAGTTGAA AAATGTAGTT CAAAGAACAC CTACATACCT TTCACATAGA
34951 TTCATGATTT GTTAATGTTA TGCCACTTTG TATATATCTC TCTCCCTCCT
35001 ATCTGTATAC TTTTATTTAT TTATTTTTGC TGAACTATTT CAGAGTAACT
35051 TAAAGGCATC TTGATTTTAC CCTTGAACAG TTCAATATGT TTCTGCTAAG
35101 AATTCTCCTA TATAAGTCAG ATATCATTAC ATCTAAGAAA ATTCACGGCA
35151 ATTTTACAAT ATAATATTAT AGTCCAAATC CATATTTCCT CAGTTGTTCC
35201 AAAAAATGTT CATGGCTGTT TCCTTTTTTA ATCTAAATTT GAATCCAAGT
35251 TTGAGGCATT GTATTTGGTT GCTGTGTCTC TAGGGTTTTT AAAATCTGTG
35301 CCTTTTCTTC TCCCCATGAC TTTTTAGAAG AGTCAAGACC GGTTATTCTT
35351 ATAGAATAAC CCACATTCTA GATTTGCCTG ATTAGTTTTT TTATACTTAA

FIGURE 3-12

35401 CGTATTTTTG GCAAGAACAT TACATTGGTA ACGCTGTTGG TGATGGGTCA
35451 GTTTTGAAGA GTGGAGATGA TTAAACTGCT TTTGTTCATT GAAGTATCTG
35501 TCAAGACCAG AGATCCTTAA CTGGTGCCAT AAATAGGTTT CAGAGAATCC
35551 TTTATATATA CACCCTGTCC CCCACCTAAA TTATATACAC ATCTTCTTTA
35601 TATATTCATT TTTCTAGGGG AGGCTTCTTG GCTTTTATCA AATTCTCAGA
35651 GGGCCCCAAG ACCCAAAGAG GTTATGAAAC ACTAGTCTGT CCACTGAGGC
35701 AGGCAACACA GAGCTGGTTT CTGGGGCCTT GTTCAGTCTG AACCAGCTTC
35751 CCTTGGGGAG ATAGCACAAG GCTGTAACTT TGCCCCATCT TGGCTTTGGA
35801 TCAAAGAGGA CTGTCCATTT TGTTGTCATA CCTAGGAACC AGGGACAGCT
35851 TATGTGGCCT GGTTCCAGGG ATCCAGGAGA ATTTCAGTTC TTGTCTTGCC
35901 TTTCAGGTGT TCAGAATGCC AGGATTCCCT CACCAACTGG TACTATGAGA
35951 AGGATGGGAA GCTCTACTGC CCCAAGGACT ACTGGGGGAA GTTTGGGGAG
36001 TTCTGTCATG GGTGCTCCCT GCTGATGACA GGGCCTTTTA TGGTGAGTGA
36051 ATCCCTTCAT ATCTGCCCCT CTTGGTCTTC AGAGTCCATT GACAGTGCTT
36101 CCAGTTCCCT GTGGCCTGTT AATCTTTTAG TCTTTCCATC AGCCAGGGCA
36151 TCTCCCTTTA TTTATTCATT CATTCAACTA GCAGGTATCA ATTGAGCACC
36201 TACTAAGTGA AAGGTAAGAT CCTTCCCTCA AAGACTTAAT AGTTGAACGT
36251 TGGGAGTGGG AGGAGAGGCA GGCAGAGAGG AGACACAATA TAGTTGGATA
36301 AGGACCTCCA AGGAGAGTGT TACAGGCTGA GAGGAGGATA TACTTAGGTT
36351 GTCTTTAGGG AATCAGAAAA GGAGACTCTG GAATAGGCTG GCAGAGAGAG
36401 GGGCTACCTC CTATACCTGC TCTGGACAAA CGACTTTAAG CATAGTGACA
36451 GATTTGCCAA CCCTGTATTG GAAGAACTGA TCTTTTTTAG TGGGGATGAT
36501 TACTTCTGGG GATTTCTTCT CATAACTGAG ACCAAAACAG TTTTGTGCAG
36551 TCTCAGAAAT GACAGGAGGT ACCAATCTGA CACTTCCTTT GGAAGCTCTA
36601 GGGCAGAGAG TGAAAGAGTG GATTTTGACG GGGGCCTTGC TTGGAGGTCA
36651 TTCACCCACC CCTGTCCTCA CTCCAGCAAC AGTGATAACT CACTTCCTTC
36701 CTCCCTTTGT ACACCCTTCT CCCCACCTGC TCACAGGTGG CTGGGGAGTT
36751 CAAGTACCAC CCAGAGTGCT TTGCCTGTAT GAGCTGCAAG GTGATCATTG
36801 AGGATGGGGA TGCATATGCA CTGGTGCAGC ATGCCACCCT CTACTGGTAA
36851 GATAGTGGTC CTTTGTCTAT CCTCTCCCAT ATAAGAGTGG CTGGCGGGGA
36901 GGGACAGTGG CAGGGTGAGT TGGGCAGAAG GAGTGTTAGG GTAGTCAGAG
36951 CATTGGATTC TTACCACAGC AGTGCTCTTA ACCAGCTCTT TAACTTGTAA
37001 GCAGAATGAT TTACACATGT CTCTACCCTT TTTCCTTACC AACCTTGAAA
37051 ATGTCTTCAC TCTGCCCTGC AATCCTCCCA GTGGGAGGCA CTCTTCAAGG
37101 ACGATCCCAG AACATTAAAG TCAAAGACCC CTTAGAGCTC ACCCTGTCCA
37151 ACCACCTTGG TTGATAAAAG AAGTCAGCCT GGGGCCCATG GAATAGAATA
37201 GTACAAGGGC AAGGTTCTCA TTGTGAGTCA AAGGTAGAGT GAAGAGAACC
37251 CAGACCATCT CACCCCAACC CAGGCCAGTG TTTTTCCAAA TATACCACTT
37301 GCTGCAGATC TAGCTCAGCA CCCCCAGTCC CAGCCCACCC TGAGAACCCA
37351 GGCTCCTCAT TCTGAGCAGC CAGCTAGAAT CATGACAAAG AGGGTGGTAG
37401 TGAGACTATG GGTACTGTTG CTTAAAGCCA CATGGTGCAG TGGTTGCTGG
37451 GGGGCTTCTG TGTGGGACTC TAGCATCTTA TTCCCCCCTG TGCCCTCTCC
37501 CCAGTGGGAA GTGCCACAAT GAGGTGGTGC TGGCACCCAT GTTTGAGAGA
37551 CTCTCCACAG AGTCTGTTCA GGAGCAGCTG CCCTACTCTG TCACGCTCAT
37601 CTCCATGCCG GCCACCACTG AAGGCAGGCG GGGCTTCTCC GTGTCCGTGG
37651 AGAGTGCCTG CTCCAACTAC GCCACCACTG TGCAAGTGAA AGAGTAAGTA
37701 TTTTGAGAAC CCTTCAGCAG GGGTTCTTGA GCAGAGTCTG TAAATGGGCC
37751 TCAGAGGGCT TAGACCTCCA AAGTCTCATG CAGAACTCCC TTTATTCTCA
37801 TCTCATATCT TTCTCCTGGA CCCCACTATG CTGTAACCGT ACCTGGGCCT
37851 TGGCACTTAC TGTTCTCTCT GCCCAGGCTA CTTCCTACCC GATACTTAAG
37901 GCAAGAATCA CTCACCTTTC AGGTGTCAGG TTTCAGGTCA TGTTTGCTCT
37951 TTGAAATCAT CTGGCTTGAT TATGTGTATT AGTTGTTTAT CTTCTATCCC
38001 CTCCACTAGA ATGTAAATTC CAGAAGAAAC TTGCTGTCTT ATTCAGTGCT
38051 GCATGCCCAG GGCTTGGAAG AGTACCTGGC ATATAGTAGG AGTTGATTGA
38101 TTATTATTTT GTCAGTCGAG AGAATGAATG GAGAAAATGT GGTCCATGGC
38151 CCAAAAGAAG TTAAGACCCT ATCCTAGATT CAGGCCAGAG ACCAGATGGA
38201 GAAAGAGTCT GTGTCTATCT AATACCAGTA ATGTCGTACC TCTGGCCGCT
38251 TACCATGTAA ATATTGATTG TGTATCTACC ATGTGTTGGA CACTAGGCTA
38301 GTGCTTGCAC AGCAGGTGAA AGATACTAGA GTTTGGGAAG TCAGGAGGAG

FIGURE 3-13

38351 CTAAGGTCTG TTCTACAACC TTATTAGATG AAGAGGAGAG GGAATTGTGT
38401 TCAGGGCAGA GGGAGAAGCA TTTCTCCAAA AGTAGGAGTC TTAATCATGT
38451 CTGATGTAGG TTGAGTGTGG CCAGAAAAGG GGCTGTTAAG TATAGAGGGC
38501 CTGGATTATG AAAATCCAGC AGATCCATTG AGAGTTTAAG CAGCAAGGTG
38551 TTGTGACCAA GTTAACATTT TAGAAGGATC ACTGGTATGG AGGTTGGATT
38601 GGAGAGGGGA AAGCCTAAAG GTATAGAGAC TAGTTAGGAA GCTATTGTAG
38651 GCTGGGCATG GTGGTTCATG CCTGTAATCT CAGCACTTTG GGAGGCTGAG
38701 GTGGGAGGAT TGCTTGAGGC CAGGAGTTGA AGACCAACCT GGCCAACATA
38751 GCAAGACCCC GTCTCTGTTT TTCTTAATTA AAAGAAAAGT CCAGACGTAG
38801 ACATAGTGGC TCACGCCTGT AATGCCAGCA CTTTGGGAGG CCAAGGTGGG
38851 CAGATTGCTT GAGGTCAAGA GTTTGGGATT AGGCCAGGCG CAGTGGCTCA
38901 CGCCTGTAAT CCCAGCACTT TGGGAGGCCG AGGTGGGCGG ATCACAAGGT
38951 CAGGAGATCA AGACCATCCT GGCTAACACA ATGAAACCCC GTCTCTACTA
39001 AAAGTACAAA AATTAGCCGG GCATGGTGGC GGACGCCTGT AGTCCCAGCT
39051 ACTCGGGAGG CTGAGGCAGG AGAATGGCGT GAACCTAGGA GGCGGAGCTT
39101 GCTGTGAGCA GAGATCACGC CACTGCACTC CAGCCTGAGC GACAGAGCGA
39151 GACTCCATCT CAAAAAAAAA AAAGAGTTTG GGATTAGCCT GGCCAACATG
39201 GCAAAACCCC ATCTCTACAA AAAGTACAAA AAAATTAGCT GGGTATGGTG
39251 GTGCGCGCCT GTAATCCCAG TTACTCAGGA GGCTGAGGCA TGAGAATTGC
39301 TTGAGCCTGG GAGGTGGAGG TTGCAGTGAG CCCAGATCAT GCCACTGCAC
39351 TCCAGCCTGG ATGACAGAGT AAGATGCCAT CTCAAATAAA AATTAAAAAC
39401 AAAGTTTAAA AAAAAAATAG AAGCTATTAC CGTGATCCAG GTAAGAGATG
39451 TGAATAACTA CAATGATGGA AAGAAGGCAG AGTTCTTAGA GATGGGAGTA
39501 GGAGAGATGA GGGAACTCCA GATTGGGAAG ATGATGTTCA AGTTTCTGGC
39551 TTAGGCCACA GGGTGAGTGG CAATTCCCTT CACTGAGATG GGGCATCCTG
39601 GAAAAGGTGT TGCCTTTCTG TGTGGGTATC CTGGGCCCCT TAGGGGCCAC
39651 TGGTGGCCTG GGACCTGGTA AACCTTCCCT GCACAAGCAG AATTGGTCAA
39701 GCAGGTTTTT AGGACATCTT TACCCTGCCT CAACTCTTGT CTGGCCCAGG
39751 GTCAACCGGA TGCACATCAG TCCCAACAAT CGAAACGCCA TCCACCCTGG
39801 GGACCGCATC CTGGAGATCA ATGGGACCCC CGTCCGCACA CTTCGAGTGG
39851 AGGAGGTAGA GTGTGTGTCT AATCTGTCTT GTGAGGGTGG GACATGGAAC
39901 AGATCCTCTG GGAAATCAGG CTGTAGCCTT TACCTTTTCC TACCCCCAGC
39951 CCATCTCTTT GTCTTAGCAT TGAGCCTGTG ACCACTGGTG ACCTATTTCA
40001 GCGTAACAGG TTCCCAGGGT AGCAGGGATG GTTGATGGAC GGGAGAGCTG
40051 ACAGGATGCC AGGCAGAGGG CACTGTGAGG CCACTGGCAG CTAAAGGCCA
40101 CCATTAGACA AGTTGAGCAC TGGCCACACT GTGCCTGAGT CATCTGGGTT
40151 GGCCATGGGT GGCCTGGGAT GGGGCAGCCT GTGGGAGCTT TATACTGCTC
40201 TTGGCCACAG GTGGAGGATG CAATTAGCCA GACGAGCCAG ACACTTCAGC
40251 TGTTGATTGA ACATGACCCC GTCTCCCAAC GCCTGGACCA GCTGCGGCTG
40301 GAGGCCCGGC TCGCTCCTCA CATGCAGAAT GCCGGACACC CCCACGCCCT
40351 CAGCACCCTG GACACCAAGG AGAATCTGGA GGGGACACTG AGGAGACGTT
40401 CCCTAAGGTG CCACCTCCCA CCCTGGCTCT GTTCTGTCCT ATGTCTGTCT
40451 CTCGGATGAA GCTGAGCTGG CTTTCAGAAG CCTGCAGAGT TAGGAAAGGA
40501 ACCAGCTGGC CAGGGACAGA CTATGAGGAT TGTGCTGACC CAGCTGCCCC
40551 TGTGGGGATC ACAGTTTACA GCCAGAGCCT GTGCGGACCC AGCTGTCTGC
40601 CAGGTTTCCT TAGAAACCTG AGAGTCAGTC TCTGTCCACT GAACTCCTAA
40651 GCTGGACAGG AGGCAGTGAT GCTAAACCCT GAAGGGCAAC ATGGCCTATG
40701 GAGAAAGCAT GGAGCTCAGA GCCTGGAGTA CGGGCACAGA TAGGATTGAA
40751 TAAATTGTGT AGAAAGACTT TGAAAACAAT AAAGCAAAAG ATGAATGAAC
40801 GTTTTTTTTA GACTTGAGGG ACCAACAACC CCCAAACCCC AGATTCTGCC
40851 AGGTCCATGG GGAAGGAGAA GTTGCCTTGA GTGGAAGCCC CAAGTAGGGA
40901 GACTTACAGA AAAGAAGTCA AGAGCACTGG CTCCCAGGCA GAAATACTGA
40951 TACCCTACTG GGGCTTCAGG CTGAGCTCCT CCCTTCACAA ATCACTTCAT
41001 CTCTCTGAGC CTGTTTCTGC ATCTGTGACA TAAGATGGTA AGATAAAGGT
41051 GGCTGTCTCA CCAATTATGT AAGGATTAAA TGTGGAAAAG GACATAAAGT
41101 TGTATAGTGC TGCCATAGGG ACAGTGTTCA GTAAACGTGA CACATTCTTA
41151 GTATCACTAA GAATCAGGTT CTTGGCCAGG CACCGTGGCT CATGCCTGTA
41201 ATCCCAACAC TCTGGGAGGC CTAGGTCGGA GGATGGCTTG AACACAGGAG
41251 TTTGAGACCA GCCTGAGCAA CATAGTGAGA CACTGTCTCT ACAAAAAAAA

FIGURE 3-14

41301 AATAATAATA ATAATTGTTT TTAATTAGAT GGGCAGGGCA CTGTGGCTCA
41351 CACCTGTAAT CCCAGCACTT TGGGAGGCCA AGGCCGGAGG ATTGCTTGAG
41401 GCCAGGAGTT CAGGAGCAGC CTGGGCCACA TTCCTGTCTC TACAAAGAAT
41451 AAAAAAGTTA ACTGGGCATG GTGGCACATG CCTGTAATCC CAGCTACTCA
41501 AGAGGCTGAG GAGGAGGATT GCCTGAGCCC AGGAGTTCAA GACTGCAGTG
41551 AGCCTTGATC ACACCACTGT ACTACAGCTT GGGCAACAGA GTGAGACCTT
41601 GTCTCCAAAA AAAAAAGTTT GTTTTTTTTT ATCCACTCTC CTCACCAAAC
41651 AAACTGAGTA AGTTAGAGCC CTCTCAGCTG GCATGTGTTG GAAACAGTGC
41701 CCTCTCATTA AAGTGCTGCC CTCACTCCCA TTGCCTCTTG GCCTTGGTCA
41751 GTATGATGAA ATTAGTGGGA GGCAGGGCAA CAGAGGGCAG GGAAGAGCTA
41801 GAAATCCATG GCCTGGAAAA GGGAAGATTT GGGAGTGGCC AGGTATCTGT
41851 AGAGCCACCA TGCAGAGGAG GGGGGCAGCT AGCCTTGTGT GCTCTGGTGG
41901 GCATGGTCAG CAGGAGGCAG AGCAAAAGGA CAAGGGTAAG TAAACCTGTA
41951 GGTCGGGACA AGCCAAGAGC CATCCAGCGT CAGTCCTCTC TGGGTAGCCC
42001 AAGTAAAGCA GGAGCATACC CCAGAGAGAA AGTTCGCAGG GCTGTTCACC
42051 TGCAGTGCTG TGGACTTCAA CCTTCTTGTT CCTTCTTCAG TAAGTGAAAA
42101 TAACAGTCAT TGACCATGAC TATTATCGAC CGCTTTTGAA AATGTAAACA
42151 TAGTGACTTT ATTGCTGTAA AAATCATACG TGTTTATCAT CTTAAAATTC
42201 AGGAAACATG GACAGGTACA AAGATGTGCA AAATATCATC CAAAATCCCA
42251 TTTGCTGGCC AGGCACGGTG GCTCACGCCT GTAATCCCAG CACATTGGGA
42301 GGCCGAGGCG GGCAAATCAC TTGAGGTCAG GAGTTTGAGA CCAGCCTGGC
42351 CAACATGGTG AAACCCTATC TCTACTAAAA ATACAATAAT TAGGCTGGGC
42401 GCAGTGGCTC ACGCCTATAA TCCCAGCACT TTGGGAGGCC GAGGTGGGCG
42451 AATCACAAGG TCAGGAGTTT GAGACTAGCC TGGCCAATAT GGTGAAACCC
42501 CATCTCTACT AAAAATACAA AAATTAGGGC CGGGTGTGGT GGCTCACGCC
42551 TGTAATCCCA GCACTTAGGG AGGCCGAGAC AGATGGATCG CGAGATCAGG
42601 AGTTCGAGAC CAACCTAGCC AACATGGTGA AACCCCATCT CTACTAAAAA
42651 AATACAAAAA TTATTCGGTT GTGGTGGCAC ACGCCTGTAA TCCCAGCTAC
42701 TTGGGAGGCT GAGGCAGGAG AATCTCTTGA ACCTGGGAGG CAGAGGTTGC
42751 AGTGAGTGGA GATCCCGCCG TTGCACTCCA GCCTGGGCGA CAGAGTGAGA
42801 CTCCATCAAA AAAAAAAAAA AAAAAAAAAA AAATTAGCCG GGCGTGGTGG
42851 CGTGCACCTA TACTCCCAGC TACTTGGGAG GCTGAGGCAG GAGAATCGCT
42901 TGAACCTGGA AGGCGGAGGT CGCAGTGAGC CGAGATCGTG CCATTGCACT
42951 TCAGCCTGGG CGACAGAGCG AGACTCTGTC TCAAAAATAA TAATAATAAC
43001 AATAACTAGC CGGGCCTGGT GGCACATGCC TGTAGTCCCA GTTACTCAGG
43051 AGGCGGAGGC ATGAGACTCA GGTGAACTAG GGAGACAGAG GTTGCAGTGA
43101 GCCAAGATCA CACCACTGCA CTCCAGCCTG GTTGACAGAG CGAGACTCTG
43151 TCTCAAAAAA AAAAAAATCC CATTTGCTCA TTTTTTGGAT ACTAGTATAA
43201 CTATCACTCT AAACCAGTTA GTACTTAAAT CAAGCAGATA TGGGAGATGG
43251 TGAATTACCA TCTACAGTGT TGTCATATAT GTCACATACT GAGCATTATC
43301 AGCTAGTAGA ATCTAGTTAA TTGTTCTATG TGTGATGTAT GCAGAGTTCC
43351 CATTTTGAAT GTGTTTTTAC TATGCTTAAA TAAATGACTG ATGTCAGCAA
43401 CCCCAAAATG ATACATCTGA TGTAAGAGCC CCTGTTCCCC AATAATAACA
43451 TCTAAACTAT AGACATTGGA ATGAACAGGT GCCCCTAAGT TTCCTCCCTC
43501 CAGGGTTTCT TGGCCGGTCT CTGAGGACTA CACATCCCTA CTCCCGTCTT
43551 TCCTCATCTT CAGGCGCAGT AACAGTATCT CCAAGTCCCC TGGCCCCAGC
43601 TCCCCAAAGG AGCCCCTGCT GTTCAGCCGT GACATCAGCC GCTCAGAATC
43651 CCTTCGTTGT TCCAGCAGCT ATTCACAGCA GATCTTCCGG CCCTGTGACC
43701 TAATCCATGG GGAGGTCCTG GGGAAGGGCT TCTTTGGGCA GGCTATCAAG
43751 GTGAGCGCAG GCAACAATTG CTTTGCTCTT CTGCCCCCAG TCCCTCTGTC
43801 ACTGTCTTTC GGGGATTTCT CATCACTTGG CCCCACCCCA CACCATGCAG
43851 GATGCCAGGC CTCCTTCCTG GCTTTGGGTG TTGGTGTGAG AGGTATCCTT
43901 CACCCCCACC CAGGCCACCT AAGGTCAATG TTGCTGTTAC AGTGAGCTTG
43951 TGGACCTGGA GATCCAGGTT GGGTTGAGCT GTGCCTGTGG CCCTCCTGCC
44001 TCCAGTCAGT GGGTGTTTGT TAGGTGCCTG CAGACCTCAG TACCGGGCAT
44051 GCTACAAGGA GCACACAGGG GAATGGCTCC TGCCTCCCTG GTGAACAGTC
44101 TCAGGGACTA ACCTCTCTCT TTCTCTCCTC CTCCTCCTCT TCTGCTGAGA
44151 ACTGGGAGGG GGGGTCAGGT AAGACGTGTG TCTCAGCTTG GGGGCAGCAG
44201 GGCTGGAGAG CTCACCCCCG ATCCACCCAG CTCCCTGGTG CATGTCTTTG

FIGURE 3-15

44251 GCACTGACCT TCCTGCCCCC AGACTTCTGT TCACTCAGGA GACTCACTTC
44301 TATGCCAAAT GACCAGAGCC CCTGCTTGGC TTGGCAGCAT CCCCTCCTGC
44351 CTTCTTCCCC ACTTCCCTTT TCTGGGTTCT TGCCTGTCCT CTGTGCATGC
44401 CCAGCTCTCC AGGAAAGAGG GTTTGCTTCC GTGTGAGTCC CATGTTGCTC
44451 CACGCTGCAT CTTCCACACA TGAACTCTGT CATTCTGACC CGGCTCAGTG
44501 TGCCCTCCAA GGGATGGGAT GGCCAGCTGC ATAGATTTTC TCAAACAGTT
44551 CTCCAGAACT TCCTCTGGTC TCAGCACCAT TAACAGTCAC CCTCCCTGTA
44601 GGTGACACAC AAAGCCACGG GCAAAGTGAT GGTCATGAAA GAGTTAATTC
44651 GATGTGATGA GGAGACCCAG AAAACTTTTC TGACTGAGGT AAGAAGATGG
44701 AGGGGGCCCG GGAGGTTGGT GTCACCATTG GAAGAGAGAA GACCTTACAA
44751 ATAATGGCTT CAAGAGAAAA TACAGTTTGG AATTACTGTC TTAAAGACTA
44801 AGCAGAAAAG AGCCCTAGAG GAATATCCCA CTCCCTCTAA ATTACAGCGT
44851 AATTATTTGT TCAATGAACA CTTACTAAAA GCAACACAAA CAGGGTACAA
44901 GGGATGCAGT AACAAAAGAT ACAGGGTTCA GAAGAGCTCT CAGGTTATGA
44951 GGATGATGGA CATGAAAACA CTCCAATTTA GTACAACTCA ATGTTATAAT
45001 CCTCACCTGA ACGCCCTGCT AAGGGAGCCT GGAGGGGAGC TCCCTGAGCA
45051 CTCACACTCC TTGGGCATTT ACAGTTTTCA CTACCCCTCC CAAGTTACTT
45101 CATGGAGTAA CTTAAGTTGG GGACACCTGT GGTCTGGGTA TTGCCCTCCA
45151 AGCCACTTGG CCACTCCCAC CCCAGTTCTC CCAATGCAGT TCCAAGGGTA
45201 AGGCCTATGA AGCCATCTCC ATCTATATGG TGGTGGTCTT CCCTCATCCT
45251 GATCTTAGTG CCCTGTCATA TCACAAGATA GGAGGTAGGA GATACAGGTG
45301 GTAACACTTG TCAAGCTGAT TCCTTGGAGG GAAGAGGTAA GGAAGACAGT
45351 GAGAAGTTAA CCACCAGCTT TCCTTGGCTT CCCCCACCCC CAGGTGAAAG
45401 TGATGCGCAG CCTGGACCAC CCCAATGTGC TCAAGTTCAT TGGTGTGCTG
45451 TACAAGGATA AGAAGCTGAA CCTGCTGACA GAGTACATTG AGGGGGGCAC
45501 ACTGAAGGAC TTTCTGCGCA GTATGGTGAG CACACCACCC CATAGTCTCC
45551 AGGAGCCTTG GTGGGTTGTC AGACACCTAT GCTATCACTA CCCTAGGAGC
45601 TTAAAGGGCA GAGGGGCCCT GCTTTGCCTC CAAAGGACCA TGCTGGGTGG
45651 GACTGAGCAT ACATAGGGAG GCTTCACTGG GAGACCACAT TGACCCATGG
45701 GGCCTGGACC ACGAGTGGGA CAGGGCTCAA CAGCCTCTGA AAATCATTCC
45751 CCATTCTGCA GGATCCGTTC CCCTGGCAGC AGAAGGTCAG GTTTGCCAAA
45801 GGAATCGCCT CCGGAATGGT GAGTCCCACC AACAAACCTG CCAGCAGGGC
45851 GAGAGTAGGG AGAGGTGTGA GAATTGTGGG CTTCACTGGA AGGTAGAGAC
45901 CCCTTCCTAT GCAACTTGTG TGGGCTGGGT CAGCAGCTAT TCATTGAGTT
45951 TGTCTGTGTC ACTGAAACTG ACCCCAGCCA ACTGTTCTCA GTTCACAGCC
46001 CTGTTTTCAA AGAATTACAC ATCTCTAAAG GCAAACAGGG CACGGACAAG
46051 GCAAACTGGA GAGGCAAACT GTAGCCTGAG ATGGCCTGGG CTTGCCATCA
46101 CAGGTATTCA GGTGCTGAGG GCCCTTAGAC CAACTAGAGC ACCTCACTGC
46151 CTAGGAAATC AATGAAGGGG AAATGAGTTC TAGCGGAGCC CTGAAGGATC
46201 AGAATTGGAT AAAGTTCTTA TTGGCAGAGA GGCACCAGGA TTGAAGTGAC
46251 AGGAGCAAAG ACCTGGGAGG AAAGAGGAGA AAATCATCTA TTTCACCTGG
46301 AAACAAATGA TTCCAAGCAT AGAAATAATA ACAGCTGACA AGTACTGAGT
46351 GCCCTCTATA TGCTAGGCAC TGGGCTGAGG GATTAACATG CATGTGCATG
46401 TTTATTCCTC ATGACAACCT TGGTTTCCAG ATAAGCTGGA CTGGAAAGGG
46451 ACAGAGCTGG GATCCTGGGC TAATCAGTCT GGTCGCCAAG CCTGAGACTT
46501 TAGCCACTGC CCTTCACATG GGGGTCCATG AAAATAGTAG TAGTCTGGAA
46551 CAGTTTGGGG GTACATCAAG GTCGCTGTGT TTTAAGCTAT GGAGTCTGGA
46601 CTATAGGAGA CAAATGTAAA AGAGTTTTTT GGTTGACTGG CTTTTTGGTT
46651 TTTTTGTTTG TTTGTTTGTT TGTTTGTTTG TTTGTTTGTT TTTTCCTGTT
46701 TCTGGGGCTT GAATCAGGAA GGAGGTTTTT TTGTTGTTGT TGTTTTGAGA
46751 AAGGATATTG CTCTGTTGCC CAGACTGGAG TGCAGTGGCA CGATCATGGC
46801 TCACTACAGC TTCGACCTCC TGGGCTCAAG CAATCCTCCT GCCTTAGCCT
46851 CCCAAGTAGC TGGACTACAG GTGTGTACCA CCACACCTAA TTTTTTGAAT
46901 TTTTTTTTCT TTTTTTTTTT TTTTTTTTTT GGTAGAGACA GGTTCTCACT
46951 TTGTTGCCCA GGCCTGAATC TCAAACTCCT GGGCTCAAGC ATTCCTCCTG
47001 CCTCGCCCTC CCAAAGTGTT GGGATTACAG TTGTGAGCCA CCATGCCCGG
47051 CAGGAAAAGA TTTTTAAGCA AGAAAGCTTA AGAGCTGTGG TTTTTCCAAA
47101 ATGAGTCTGG GCTGGCACAG TGGCTCATGC CTGTAATCCC AGCACTTTTT
47151 TGGGAGGCCG AGGTGAGTGG ATCACTTGAG GTCAGGAGTT TGAGACCAGC

FIGURE 3-16

47201 CTGGCCAACT GGTGAAACCC CTGTTTCTAC TAAAGAAAAA AATGCAAAAA
47251 TTAGCTGGGC GTGGTGGTGC ACGCCTGTAG TCCCAGCTAC TCAGGAGGCC
47301 GAGGCAGGAG AATAGCTTGA ACCTGGGAGG CAGAAGTTGC AGTGAGCCAA
47351 GATCACACCA CTGCATTCCA GCCTGGGTGA CAGAGTGAGA CTTCATCTCA
47401 AAAAAAAAAA AAAAGAGAGA CTGATATGGT TAGTACATTG GGGTGGAATG
47451 CGGAGGGTCC AGGGAATGGA GCCCTGCATA GGGGGCTAAT GAAACATTTC
47501 AGATTTCTGA ATTAAGGTAG TGGCTGTGGG GACAGGAGCC TGGGAGGCAG
47551 GGTGGAGTCA GAATGGAGAG ACTGGTTGGC AATGAGGGAA CAGGAGGAGG
47601 AGGAGGAGGA GTTACGAGTG GCTTGAGGTG TCACTTACCA GACATTTGGG
47651 GGATGGGGGA TAGCCGTGAT TGTTGAGCAA CTGGTTTGGG AAGAGCTAGC
47701 ATTGATCCCT GCTGTTCTGT GCTAGCAGAA CCTATCAGCA TCTTCTGGGC
47751 AGGAAACTGG CTCCATGAGA CTGGCTTAGG GAGAGGCTGC TAGTCACCTA
47801 ATCTGCAGAG AAGGGGCAGC TGGAGCTGTG GGACAGAAGA GGCATCCATG
47851 TAGCTGGTGG GGGTGTCTCA GCTTGTGAAG AGGAGATGGC TTTGAGCAGG
47901 GCTGACACTG AAAAGGCTGG AAGAAAAAAA CAGACACACA AGAGTCTCAG
47951 GATCAGGTAG CATAGGAAAG TTGTGGACAG TCTTTGAGGA GCACTCCCTC
48001 AGGCAGGCAG GCAGGCAGGT CATGAGCTAT AGCGATTCAG GAAGAGCTCC
48051 CTGGGTGTGT GAGCAGCTCC AGGAGCCTAA GGGATGAAAG TAGTATTGCA
48101 GGGGGCTGGA GAGCAAGGAG TGGCTCCTTC TACATTTGCA AGGGAAGGAG
48151 AAAGGAAGTT GCTCCTGAGA GTGGTAAGAG TCAGTGGTGG AGGCCTGGAG
48201 AGGAGACATA ACAAACAAAT TTGTTGACAA ACATTTTGGT AGGAAGGGGG
48251 AGAGCTTAAA GTTTAGACAG TGGGGAAGGT GGAGTCTTAG AGGAGGTGAA
48301 TGTCTGAAAG ACAGAGCTAG CTGGAGCAAG AAGTCACTTC TCTGTTGCAG
48351 GCAGGAAGGA TCCAAAGTGG CTCAAGCCAG AGATTGGGAG AGTGGGGAGG
48401 AGGGAGCAGC CTGGATCTAA GTAAAATGGG TAGAGGTGGA GGGGGTGCTG
48451 CAACGGCCAG GGTTTTCTGA AGTTGGGGAC ATTAGGAGAG AGCTGTGAGG
48501 GCTTTGGCCA GCCACTGTGC TAGTGATTGG TGAACCAAAG GATGGGCAGG
48551 AGATGGCAGC AGGGAAGCAG AGGAAGTCCA GGCTTCCTGT TGGTATTGGG
48601 ACAAGGGAGA GGCCATAGGA GGCCCTGGCC CTGTTGTCCA GGTTGGGTTC
48651 TGAAGCTGGG TGGGCATGGC CTGGTAGGAG AGCATCTATG GCGCCCAATT
48701 CCAGATTCAG GGTCTAGTTG ATTTGCTGGC CCTGTAGCCT CAGCTCATGC
48751 TTCTGTTCCA GGCCTATTTG CACTCTATGT GCATCATCCA CCGGGATCTG
48801 AACTCGCACA ACTGCCTCAT CAAGTTGGTA TGTCCCACTG CTCTGGGCCT
48851 GGCCTCCAGG GTCCTATCCT TCCTGGCTTC CTTGTCACAA AGGAGGCTGA
48901 CTTGTCCCCT CTGGCTAGAG GGCAGAGGTG TTGCCTAGGA GCTCCTATCT
48951 TTCCCTTCCT GCTTCTTCCA ATGCCCTTCT CTGTCCTCTG GGAGCTCCGA
49001 GACACACACA GACATAATTT CACCTTCTCT CATTAGCAAC CTTTGAAATA
49051 ATTTGATTAG AAGGGACTTC AGAAGTTTGT TGACTATATG TAGAAAACCC
49101 TGTCATTTTA CCTGCTTTTG CCCCATAGTA GTCTTGTAAA ACAGTTCATT
49151 GCTGACCCCA TTTTACAGTG GTGGCACCTG AAGCCTCAGC CTGAGGCCAC
49201 CGAGCTAGTA AATTTACAGG GACCAGTTTG AGACCAGCAT TCCTCCCACT
49251 GCCCCTCAGC TGTGGTGGTT ACAATGTTGT TTGTCTTACT GACTTGCTAT
49301 CTGGCTTCCT GGGTGTCTAC CGGCTGGCCC TGGCTCTGCC CTCTAGACCC
49351 ACACCACGCA ATCTTCATTC CTTTCCCACA TGACTGCCCT GTAGCTATTC
49401 AAAGAGCTTG TCTCCCCCAA GTCTCCCCAT CTACTGCCTC CACCTTGCCT
49451 TTTTCTGTCT TATCCTGGTT CTAGCCACTG CCTGAAATCA TTTTAGGAAT
49501 AAGACAGGAC AGGGAAAAAC AAAAGCAACC CCCTGTCCCA CCTCTGAGTT
49551 CCACTCTCCA AGTCCCTGAG CCTCACCTCC AGGGCTCCAG TGGCTCTGCC
49601 ATGAACCCAC TGTGGGCTGG GAGTCTGCTG TGCACAGATA CCAGACCCTC
49651 AGAAACACAA ATGCCAAGTG TGTCTGTTTT TTTGTTTTGT TTTGTTTTGT
49701 TTTTTAGATG GAGTCTCATT CTGTTTCCCA GGCTGGAGTG CAGTGGTGCA
49751 ATCTTGGCTT ACTGCAGCCT CTACCTCCCG GGTTCTAGTG ATTGTTCTGC
49801 TTCAGCCTCC CAGTAGCTAG GACTACAGGC GTGTGCCACC ACGCCCAGCT
49851 AATTTTTTTT TTTTTTTTTT TGTATTTTTA GTAGAGACAG GGTTTTGCCA
49901 TGTTGGCCAG GCTGGTCTTG AACTCCTGAC CTCAGGTGAT TCACCCGCCT
49951 TGGCCTCCCA AAGTTCTGGG ATTACAGGTG GAAGCCACCG TGCCTGGCCT
50001 GAGTGTGTCT ATTTGATAGA GCTTTCTGCT CTGATTCTCC CTTGCTATAC
50051 ACCTTTTCTC CCCTTCTCAG TGGCTTCTCT TGCCTATGCT TCCTCCCCAG
50101 GGCCAGGTTT GAGAACATCC CCATGAAGTC CTGACCTGTC TTTTATCCTA

FIGURE 3-17

50151 CCAGGACAAG ACTGTGGTGG TGGCAGACTT TGGGCTGTCA CGGCTCATAG
50201 TGGAAGAGAG GAAAAGGGCC CCCATGGAGA AGGCCACCAC CAAGAAACGC
50251 ACCTTGCGCA AGAACGACCG CAAGAAGCGC TACACGGTGG TGGGAAACCC
50301 CTACTGGATG GCCCCTGAGA TGCTGAACGG TGAGTCCTGA AGCCCTGGAG
50351 GGGACACCCG CAGAGGGAGG ACAGATGCTG CCCTTGCATC AGAGCCCTGG
50401 GAATTCCAGG GGAGGCCTGT GAAGCGTAGG ACCGGATACC CAGAGCTGAG
50451 GATATTTTTC CCTTGCCAGG TGGGGCCTCA CGATTTAGCT CCTGAGCTCA
50501 GGGGGCTGGG AACTGATCAG TGTCCCATCA TGGGGGATAA GGTGAGTTCT
50551 GACTGTGGCA TTTGTGCCTC AGGGATCGCT AAGAGCTCAG GCTATTGTCC
50601 CAGCTTTAGC CTTCTCTCTC CATGGTGAGA ACTGAAGTGT GGTGCCCTCT
50651 GGTGGATAAT GCTCAAACCA ACCAGAGATG CTGGTTGGGA TTCTTGAAAT
50701 CAGGGTTGTG AGGCCTCAGA AATGGTCTGA ATACAATCCA TTTTGGAGTC
50751 TGAGGCCCAG AGAAGTTCAG TGAATTGCCT AGGAGCATAC AGCTGCCTAA
50801 TGGCAGAGGC TAGATGAACC CTAGTCTGGT TCTTTTCCAC TTTAACGTGC
50851 AGTTTCATCC TAGGCAGTGT TATGTTATAA GGGCTCTCCA AGGCAGTTCA
50901 CCTACGGCTG AGGAAGGACT ATTTTCAGGT GGTGTCTGCG CAGGACAGCC
50951 TGTGGGGTGT CCCTACAGAA CCTGTTCTAG CCCTAGTTCT TAGCTGTGGC
51001 TTAGATTGAC CCTAGACCCA GTGCAGAGCA GGTAAGGGAT GTAAACTTAA
51051 CAGTGTGCTC TCCTGTGTTC CCCAAGGAAA GAGCTATGAT GAGACGGTGG
51101 ATATCTTCTC CTTTGGGATC GTTCTCTGTG AGGTGAGCTC TGGCACCAAG
51151 GCCATGCCCG AGGCAGCAGG CCTAGCAGCT CTGCCTTCCC TCGGAACTGG
51201 GGCATCTCCT CCTAGGGATG ACTAGCTTGA CTAAAATCAA CATGGGTGTA
51251 GGGTTTTATG GTTTATAACG CATCTGCACA TCTTTGCCAC GTTCGTGTTT
51301 CATTGGTCTT AAGAGAAGGA CTGGCAGGGT TTTTTTGTTT TAGATGGAGC
51351 CTCACTTCGT TGCCCAGGCT GGAGTGCAGT GGCACAATCT GGGCTCACTG
51401 CAACCTCTGC CTTCTGGGTT CAAGTGATTC TCCTGCCTCA GCCTCCCAAG
51451 TAGCTGGGAC TACCGGCACA CACCACCATG CCCGGCTAAT TTTTGTATTT
51501 TTAGTAGAGA CAGGGTTTCA CCATGTTGGC CAGGCTGGTC TTGAACTCCG
51551 GACCTCAGGT GATCCGCCTG CCTCAGCCTC TAAAAGTGCT GGAATTAATA
51601 GGCGTGAGCT ACCTCGCCCG GCCAGGTTTT TTTTTTTTTT TTTTTAGTTG
51651 AGGAAACTGA GGCTTGGAAG AGGGCAGTGG CTTGCACATG GTCGATAAGG
51701 GGCAGATGAG ACTCAGAATT CCAGAAGGAA GGGCAAGAGA CTGTTCATGT
51751 GGCTGTCTAG CTAGCTCTTG GGCCAAATGT AGCCCTTCTC AGTTCCCTTC
51801 AAGTAGAAGT AGCCACTCTA GGAAGTGTCA GCCCTGTGCC AGGTACCACG
51851 TGGACAGAGT GAGGAATCTT GGAAAGATTC CTACCTTTAG GAGTTTAGTC
51901 AGGTGACAGC ATATCTCAGC GACTCAAACA CACACACATT CAAAGCCTTC
51951 TGTAATTCCT ACAAAGTTGT GAGGGGTAGA GGAGAGGAGA GACAAGGGAT
52001 GGTTAGGATA ATGAAGGAAT GTTTTGTTTT TGTTTTTGTT TTTGAGATGG
52051 AGTTTCACTC TGTCACCCAG GCTGGAGTGC AGAGGTGCAA TCTTGGCTCA
52101 CTGCAGCCTC CGCCTCCCAG GTTCAAGCAA TCCTCCTGCC TCAGCCTCCC
52151 AAGTAGCTGG GACTACAGGT GTGCGCCACC ACGCCTGGCT AATTTTTGTA
52201 TTTTCAGTAG AGACAGGGTT TCGCCATATT GGCCAGGCTG GTCTCAAATG
52251 CCTGACCTCA GGTGATACAC CCGCTTCAGC CTCCCAAAGT GCTGAGATTA
52301 CAGGCATGAG CTACCGTGCC TGGCCATGAA GGAAGATTTG TTTTAAAAAA
52351 TTGTTTTCTT TAATATTAAT TGAACACCTC TGTTCAGAGC ACTGGGCTGG
52401 TGCCAGAGGG TTTCAGACAT GAATCAGATC CAGCACCTCA TAGAGCCTTA
52451 ATCTGGCACA CACACACAGC CACAAGGAGA CACAGACAAG GCAGGGTAGG
52501 ATGAGTGGAA GCTAGGAGCA GATGCTGATT TGGAACACTT GGCTTCTGCA
52551 GTGAAGCCCC TTCTTAGTCC TCTTCAGTAA CCCAGCTCTC AGTGGATACA
52601 GGTCTGGATT AGTAAGATTT GGAGAGATGA TTGGGGATTG GGGAGAGCTC
52651 TCTAACCTAT TTTACCACCT CCTCTTCTGC CATTCTTCCT GTCCACATCC
52701 CCAGCATCCC TTTCCCTTGC CAAGTATCTG TGGCCTCTGT AGTCCTTTGT
52751 AAACAGCTGT CTTCTTACCC TACAGATCAT TGGGCAGGTG TATGCAGATC
52801 CTGACTGCCT TCCCCGAACA CTGGACTTTG GCCTCAACGT GAAGCTTTTC
52851 TGGGAGAAGT TTGTTCCCAC AGATTGTCCC CCGGCCTTCT TCCCGCTGGC
52901 CGCCATCTGC TGCAGACTGG AGCCTGAGAG CAGGTTGGTA TCCTGCCTTT
52951 TTCTCCCAGC TCACAGGGTC CTGGGACGTT TGCCTCTGTC TAAGGCCACC
53001 CCTGAGCCCT CTGCAAGCAC AGGGGTGAGA GAAGCCTTGA GGTCAAGAAT
53051 GTGGCTGTCA ACCCCTGAGC CATCTGACAA CACATATGTA CAGGTTGGAG

FIGURE 3-18

53101 AAGAGAGAGG TAAAGACATA GCAGCAAGTA ATCTGGATAG GACACAGAAA
53151 CACAGCCATT AAAAGAAAGT TTAAAAGAAG GAAATTCACC CAAACCATTT
53201 GAATACAGTA AGTGTATTCA TCTTTCGATA TTCCCCTGTC CATATCTACA
53251 CATATACTTT TTTTTATAGT AAATAGTTCT GTATTTTGCC CTGCATTTCC
53301 CTTGTGTTTA CTATCCAGTC TTCCTGTTTA TCATTTTTGT CGACAACATG
53351 AAATTCTATT GAGAGACTGT CTGAACATAT TGTAATGTAG ATGTTCAGGT
53401 TTTTCCAGTT TCTCTTTACA ATAGGTATTT AACTACAGTG AGCAGTTTTA
53451 TGCATTTAGC TAATTTCTCC TTTGAGGAAG TATTTTCAAA ATTACCTTTA
53501 TTCTTCTCAG GTAATAATTT CATTATTACC AAAGTTACCC TAGGTCTTTT
53551 CAAGTGTGTG GTTAAAAAAC GAGAATCTGG CTGGGCGCGA TGGCTCACAC
53601 CTGTAATCCC AGCACTTTGG GAGGCTGAGG CTGGTGGATC ACCTGAGGTC
53651 TGGAGTTCGA GACCAGCCTG GCCAACATGG TGAAACCCCA TCTCTACTAA
53701 AAATACAAAA CTTAGCCAGG CATGGTGGCA GGTGCCTGTA ACCCCAGCTA
53751 CTTGGGAGGC TGAGGCAGGA GAATTGCTTG AACCCAGGGG CGGAGGTTGC
53801 AGTGAGCCGA TATCACGCCA TTGCACTCCA GCCTCGGCAA CAAGAGTGAA
53851 ACTCTGTCTC AAAAATGGGG TTCTTTTCCT GCCATCAAAA ATCATGTTTC
53901 TTTTAAAAAC AAGTTCAAAC ATTACCAAAG TTTATAGCAC AGGAAATACG
53951 TCTTCTGTAA TCTCCCTTAA CCAATATATC CCTCAACATT CTCCTCACCC
54001 CCAACTCCAC CCTCCCAGGA TAACCAGTTG GGACATAATC TTTATTTAAA
54051 AATGGTTTCC GGATAGAGAA AGCGCTTCGG CGGCGGCAGC CCCGGCGGCG
54101 GCCGCAGGGG ACAAAGGGCG GGCGGATCGG CGGGGAGGGG GCGGGGCGCG
54151 ACCAGGCCAG GCCCGGGGGC TCCGCATGCT GCAGCTGCCT CTCGGGCGCC
54201 CCCGCCGCCG CCCTCGCCGC GGAGCCGGCG AGCTAACCTG AGCCAGCCGG
54251 CGGGCGTCAC GGAGGCGGCG GCACAAGGAG GGGCCCCACG CGCGCACGTG
54301 GCCCCGGAGG CCGCCGTGGC GGACAGCGGC ACCGCGGGGG GCGCGGCGTT
54351 GGCGGCCCCG GCCCCGGCCC CCAGGCCAGG CAGTGGCGGC CAAGGACCAC
54401 GCATCTACTT TCAGAGCCCC CCCCGGGGCC GCAGGAGAGG GCCCGGGCTG
54451 GGCGGATGAT GAGGGCCCAG TGAGGCGCCA AGGGAAGGTC ACCATCAAGT
54501 ATGACCCCAA GGAGCTACGG AAGCACCTCA ACCTAGAGGA GTGGATCCTG
54551 GAGCAGCTCA CGCGCCTCTA CGACTGCCAG GAAGAGGAGA TCTCAGAACT
54601 AGAGATTGAC GTGGATGAGC TCCTGGACAT GGAGAGTGAC GATGCCTGGG
54651 CTTCCAGGGT CAAGGAGCTG CTGGTTGACT GTTACAAACC CACAGAGGCC
54701 TTCATCTCTG GCCTGCTGGA CAAGATCCGG GCCATGCAGA AGCTGAGCAC
54751 ACCCCAGAAG AAGTGAGGGT CCCCGACCCA GGCGAACGGT GGCTCCCATA
54801 GGACAATCGC TACCCCCCGA CCTCGTAGCA ACAGCAATAC CGGGGGACCC
54851 TGCGGCCAGG CCTGGTTCCA TGAGCAGGGC TCCTCGTGCC CCTGGCCCAG
54901 GGGTCTCTTC CCCTGCCCCC TCAGTTTTCC ACTTTTGGAT TTTTTTATTG
54951 TTATTAAACT GATGGGACTT TGTGTTTTTA TATTGACTCT GCGGCACGGG
55001 CCCTTTAATA AAGCGAGGTA GGGTACGCCT TTGGTGCAGC TCAAAAAAAA
55051 AAAAAAAAAT GATTTCCAGC GGTCCACATT AGAGTTGAAA TTTTCTGGTG
55101 GGAGAATCTA TACCTTGTTC CTTTATAGGC CAAGGACCGC AGTCCTTCAG
55151 TAACACCAGT GTAAAAGCTT GAGGAGAAAT TGTGAAGCTA CACAGTATTT
55201 GTTTTCTAAT ACCTCTTGTC ATTCTAAATA TCTTTAATTT ATTAAAAAAT
55251 ATATATATAC AGTATTGAAT GCCTACTGTG TGCTAGGTAC AGTTCTAAAC
55301 ACTTGGGTTA CAGCAGCGAA CAAAATAAAG GTGCTTACCC TCATAGAACA
55351 TAGATTCTAG CATGGTATCT ACTGTATCAT ACAGTAGATA CAATAAGTAA
55401 ACTATATTGA ATATTAGAAT GTGGCAGATG CTATGGAAAA AGAGTCAAGA
55451 CAAGTAAAGA CGATTGTTCA GGGTACCAGT TGCAATTTTA AATATGGTCG
55501 TCAGAGCAGG CCTCACTGAG GTGACATGAC ATTTAAGCAT AAACATGGAG
55551 GAGGAGGAGT AAGCCTGAGC TGTCTTAGGC TTCCGGGGCA GCCAAGCCAT
55601 TTCCGTGGCA CTAGGAGCCT GGTGTTTCCG ATTCCACCTT TGATAACTGC
55651 ATTTTCTCTA AGATATGGGA GGGAAGTTTT TCTCCTATTG TTTTTAAGTA
55701 TTAACTCCAG CTAGTCCAGC CTTGTTATAG TGTTACCTAA TCTTTATAGC
55751 AAATATATGA GGTACCGGTA ACATTATGCC CATTTCTCAC AGAGGCACTA
55801 CTAGGTGAAG GAGTTTGCCT GACGTTATAC AACCAGGAAG TAGCTGAGCC
55851 TAGATCCCTT CCACCCACCC CATGGCCCTG CTCATGTTCC ACCTGCCTCT
55901 AATTTACCTC TTTTCCTTCT AGACCAGCAT TCTCGAAATT GGAGGACTCC
55951 TTTGAGGCCC TCTCCCTGTA CCTGGGGGAG CTGGGCATCC CGCTGCCTGC
56001 AGAGCTGGAG GAGTTGGACC ACACTGTGAG CATGCAGTAC GGCCTGACCC

FIGURE 3-19

56051 GGGACTCACC TCCCTAGCCC TGGCCCAGCC CCCTGCAGGG GGGTGTTCTA
56101 CAGCCAGCAT TGCCCCTCTG TGCCCCATTC CTGCTGTGAG CAGGGCCGTC
56151 CGGGCTTCCT GTGGATTGGC GGAATGTTTA GAAGCAGAAC AAGCCATTCC
56201 TATTACCTCC CCAGGAGGCA AGTGGGCGCA GCACCAGGGA AATGTATCTC
56251 CACAGGTTCT GGGGCCTAGT TACTGTCTGT AAATCCAATA CTTGCCTGAA
56301 AGCTGTGAAG AAGAAAAAAA CCCCTGGCCT TTGGGCCAGG AGGAATCTGT
56351 TACTCGAATC CACCCAGGAA CTCCCTGGCA GTGGATTGTG GGAGGCTCTT
56401 GCTTACACTA ATCAGCGTGA CCTGGACCTG CTGGGCAGGA TCCCAGGGTG
56451 AACCTGCCTG TGAACTCTGA AGTCACTAGT CCAGCTGGGT GCAGGAGGAC
56501 TTCAAGTGTG TGGACGAAAG AAAGACTGAT GGCTCAAAGG GTGTGAAAAA
56551 GTCAGTGATG CTCCCCCTTT CTACTCCAGA TCCTGTCCTT CCTGGAGCAA
56601 GGTTGAGGGA GTAGGTTTTG AAGAGTCCCT TAATATGTGG TGGAACAGGC
56651 CAGGAGTTAG AGAAAGGGCT GGCTTCTGTT TACCTGCTCA CTGGCTCTAG
56701 CCAGCCCAGG GACCACATCA ATGTGAGAGG AAGCCTCCAC CTCATGTTTT
56751 CAAACTTAAT ACTGGAGACT GGCTGAGAAC TTACGGACAA CATCCTTTCT
56801 GTCTGAAACA AACAGTCACA AGCACAGGAA GAGGCTGGGG GACTAGAAAG
56851 AGGCCCTGCC CTCTAGAAAG CTCAGATCTT GGCTTCTGTT ACTCATACTC
56901 GGGTGGGCTC CTTAGTCAGA TGCCTAAAAC ATTTTGCCTA AAGCTCGATG
56951 GGTTCTGGAG GACAGTGTGG CTTGTCACAG GCCTAGAGTC TGAGGGAGGG
57001 GAGTGGGAGT CTCAGCAATC TCTTGGTCTT GGCTTCATGG CAACCACTGC
57051 TCACCCTTCA ACATGCCTGG TTTAGGCAGC AGCTTGGGCT GGGAAGAGGT
57101 GGTGGCAGAG TCTCAAAGCT GAGATGCTGA GAGAGATAGC TCCCTGAGCT
57151 GGGCCATCTG ACTTCTACCT CCCATGTTTG CTCTCCCAAC TCATTAGCTC
57201 CTGGGCAGCA TCCTCCTGAG CCACATGTGC AGGTACTGGA AAACCTCCAT
57251 CTTGGCTCCC AGAGCTCTAG GAACTCTTCA TCACAACTAG ATTTGCCTCT
57301 TCTAAGTGTC TATGAGCTTG CACCATATTT AATAAATTGG GAATGGGTTT
57351 GGGGTATTAA TGCAATGTGT GGTGGTTGTA TTGGAGCAGG GGGAATTGAT
57401 AAAGGAGAGT GGTTGCTGTT AATATTATCT TATCTATTGG GTGGTATGTG
57451 AAATATTGTA CATAGACCTG ATGAGTTGTG GGACCAGATG TCATCTCTGG
57501 TCAGAGTTTA CTTGCTATAT AGACTGTACT TATGTGTGAA GTTTGCAAGC
57551 TTGCTTTAGG GCTGAGCCCT GGACTCCCAG CAGCAGCACA GTTCAGCATT
57601 GTGTGGCTGG TTGTTTCCTG GCTGTCCCCA GCAAGTGTAG GAGTGGTGGG
57651 CCTGAACTGG GCCATTGATC AGACTAAATA AATTAAGCAG TTAACATAAC
57701 TGGCAATATG GAGAGTGAAA ACATGATTGG CTCAGGGACA TAAATGTAGA
57751 GGGTCTGCTA GCCACCTTCT GGCCTAGCCC ACACAAACTC CCCATAGCAG
57801 AGAGTTTTCA TGCACCCAAG TCTAAAACCC TCAAGCAGAC ACCCATCTGC
57851 TCTAGAGAAT ATGTACATCC CACCTGAGGC AGCCCCTTCC TTGCAGCAGG
57901 TGTGACTGAC TATGACCTTT TCCTGGCCTG GCTCTCACAT GCCAGCTGAG
57951 TCATTCCTTA GGAGCCCTAC CCTTTCATCC TCTCTATATG AATACTTCCA
58001 TAGCCTGGGT ATCCTGGCTT GCTTTCCTCA GTGCTGGGTG CCACCTTTGC
58051 AATGGGAAGA AATGAATGCA AGTCACCCCA CCCCTTGTGT TTCCTTACAA
58101 GTGCTTGAGA GGAGAAGACC AGTTTCTTCT TGCTTCTGCA TGTGGGGGAT
58151 GTCGTAGAAG AGTGACCATT GGGAAGGACA ATGCTATCTG GTTAGTGGGG
58201 CCTTGGGCAC AATATAAATC TGTAAACCCA AAGGTGTTTT CTCCCAGGCA
58251 CTCTCAAAGC TTGAAGAATC CAACTTAAGG ACAGAATATG GTTCCCGAAA
58301 AAAACTGATG ATCTGGAGTA CGCATTGCTG GCAGAACCAC AGAGCAATGG
58351 CTGGGCATGG GCAGAGGTCA TCTGGGTGTT CCTGAGGCTG ATAACCTGTG
58401 GCTGAAATCC CTTGCTAAAA GTCCAGGAGA CACTCCTGTT GGTATCTTTT
58451 CTTCTGGAGT CATAGTAGTC ACCTTGCAGG GAACTTCCTC AGCCCAGGGC
58501 TGCTGCAGGC AGCCCAGTGA CCCTTCCTCC TCTGCAGTTA TTCCCCCTTT
58551 GGCTGCTGCA GCACCACCCC CGTCACCCAC CACCCAACCC CTGCCGCACT
58601 CCAGCCTTTA ACAAGGGCTG TCTAGATATT CATTTTAACT ACCTCCACCT
58651 TGGAAACAAT TGCTGAAGGG GAGAGGATTT GCAATGACCA ACCACCTTGT
58701 TGGGACGCCT GCACACCTGT CTTTCCTGCT TCAACCTGAA AGATTCCTGA
58751 TGATGATAAT CTGGACACAG AAGCCGGGCA CGGTGGCTCT AGCCTGTAAT
58801 CTCAGCACTT TGGGAGGCCT CAGCAGGTGG ATCACCTGAG ATCAAGAGTT
58851 TGAGAACAGC CTGACCAACA TGGTGAAACC CCGTCTCTAC TAAAAATACA
58901 AAAATTAGCC AGGTGTGGTG GCACATACCT GTAATCCCAG CTACTCTGGA
58951 GGCTGAGGCA GGAGAATCGC TTGAACCCAC AAGGCAGAGG TTGCAGTGAG

FIGURE 3-20

59001 GCGAGATCAT GCCATTGCAC TCCAGCCTGT GCAACAAGAG CCAAACTCCA
59051 TCTCAAAAAA AAAAA (SEQ ID NO:3)

FEATURES:

Start:	3000
Exon:	3000-3044
Intron:	3045-45393
Exon:	45394-45525
Intron:	45526-45761
Exon:	45762-45818
Intron:	45819-50154
Exon:	50155-50329
Intron:	50330-51076
Exon:	51077-51132
Intron:	51133-52775
Exon:	52776-52933
Intron:	52934-55922
Exon:	55923-56064
Stop:	56065

CHROMOSOME MAP POSITION:
Chromosome 22

ALLELIC VARIANTS (SNPs):

DNA Position	Major	Minor	Domain
941	A	T	Beyond ORF(5')
2612	G	A	Beyond ORF(5')
5080	G	A	Intron
6599	-	A C	Intron
6983	C	G	Intron
9885	A	-	Intron
12538	G	T	Intron
17707	T	C	Intron
18219	-	A	Intron
19670	C	T	Intron
21153	G	T	Intron
24566	C	-	Intron
26604	G	A	Intron
27255	C	G	Intron
27399	T	C	Intron
28088	G	A	Intron
28734	G	A	Intron
29246	-	T	Intron
29490	G	A	Intron
29934	T	C	Intron
34480	A	G	Intron
38812	T	C	Intron
40731	C	G	Intron
41303	T	A	Intron
41305	-	A	Intron
41457	G	C	Intron
43168	A	- T	Intron
43357	T	G	Intron
45664	T	C	Intron
47549	A	C	Intron

FIGURE 3-21

47908	C	A	Intron
52267	C	A	Intron
54654	T	C	Intron
54679	C	G	Intron
54693	A	C	Intron
54706	T	C	Intron
54712	T	C	Intron
54799	T	C	Intron
54819	G	A	Intron
55499	C	T	Intron
56825	C	A	Beyond ORF(3')
58871	T	A	Beyond ORF(3')

Context:

DNA
Position

941
GAGTAAGTGGGTGGTCAGGTTACAGACTTAATTTTGGGTTAAAAAGTAAAAACAAGAAAC
AAGGTGTGGCTCTAAAATAATGAGATGTGCTGGGGGTGGGGCATGGCAGCTCATAAACTG
ACCCTGAAAGCTCTTACATGTAAGAGTTCCAAAAATATTTCCAAAACTTGGAAGATTCAT
TTGGATGTTTGTGTTCATTAAAATCTCTCACTAATTCATTGTCTTGTCCACTGTCCGTAA
CCCAACCTGGGATTGGTTTGAGTGAGTCTCTCAGACTTTCTGCCTTGGAGTTTGTGAGAG
[A,T]
GATGGCATACTCTGTGACCACTGTCACCCTAAAACCAAAAAGGCCCCTCTTGACAAGGAG
TCTGAGGATTTTAGACCCAGGAAGAATGAGTGATGGGCATATATATATCCTATTACTGAG
GCATGAGAAGAGTGGAATGGGTGGGTTGAGGTGGTGTTTTAAGGCCTCTTGCCAGCTTGT
TTAACTCTTCTCTGGGGAACGAGGGGGACAACTGTGTACATTGGCTGCTCCAGAATGATG
TTGAGCAATCTTGAAGTGCCAGGAGCTGTGCTTTGTCTATTCATGGCCCCTGTGCCTGTG

2612
TGAGTTGGAACAGTTTGATACCAAAACCATCCCCCCGCCCCCCAACCCCCAGCCTAGGGT
CCGTGGAAAAATTGGCCCCTGGTGCCAAAAAGGTTGAGGACTGCTGATCTAGAGGACCAA
TTTATTCAATGTTGGTTGAGTAAATGAGCTCTTGGATTAGGTGATGGAAAAATCTGAAAA
AACAGGGCTTTTGAGGAATAGGAAAAGGCAGTAACATGTTTAACCCAGAGAGAAGTTTCT
GGCTGTTGGCTGGGAATAGTCATAGGAAGGGCTGACACTGAAAAGAAGGAGATTGTGTTC
[G,A]
TTTCTTCTTCTCAGAGCTATAAGCAAAGGCTGAAAGTTCTAGAAAAAGGCAAGTTTTGTT
TCAGTAGAAAAAAGGATAATCAGAACCATTTTTAGAAAATGGAATGAGACTACTTTTGAG
GCCATGAGTTCCTTGTCCCTGGAGAGATGAGCAGAGGTTGGACAAGTGCTTACCAGAGAT
CTTGTGGAGGCAGAAACTGTGCATCTAGCAGAGCATTGGCCTAACCCTTTCAAATGAGAT
GCTGTTAACTCAGTCTTATTCTACATGGTAGGAATCCTGTCCCTTTGCCTCCTGCTACTT

5080
ACAACGTAAAATAGTTGAAATTTGTTGGTGGAAAGAAGAGCAGTCCACTCCAGAGGCTGG
ATGGGCATGCCTGGCCCCCAAGGTCTGAAGTGGTAGGGCTGTGCCTATATCCTGAGAATG
AGATAGACTAGGCAGGCACCTTGTGCTGTAGATTCCAGCTCCTGCACATAGCTCTTGTTG
TAAAACATCCCTGTGCTTATACCAAGTAATTGAGTTGACCTTTAAACACTTGCCTCTTCC
CTGGGAACCATATAGGGGATTGGCCTGGAGACGTCTGGCCTCTGGAAGAGTTGGAAAGCA
[G,A]
CCATCATTATTATCCTTTCCTTTCAGCTATAACTCAGAGCTCTCAAGTCTTTTCTGTGGA
TCTTATTGCCTTGGTTCTTGCCCCTTTTACTCCCAGGGAAGTTGATTCTGTCTTTTCTGT
TCCATTTAGTATGACAGGAGCAGAGAATGTCAGAGCTGTAAGGGACCTTATAGTTAAAGC
CTTTGGCTGGTCCTTTCATTTTATAGCTGGGACTAATAAGTAACGTCAAAACCCAATGAG
TTCACAGATTGGGTCTCGCCTTGGCATGTAACCCATATGTTCATATTCTTGCTGTTTTCC

6599
CTGTAATCCTAGCACTCTGGGAGGCCGAGGCAGAAGGATCGCTTGAGCCCATGAGCCCAG
GAGTTTGAGACCAGCCTGGCCAACATGGCAAAACTCCACCTCTACAAAAAATACAAAAAT
ATTAGCCAGGCGTGATGGCACACACCTGTAGTCCCAGCTACTTGGGAAGCTGAGGAGCGA
TGATTACCTGAGCCCAGGGATATCAAGGCTGTAGTGAGCTGTGATCATGCCACTGTACTC
CATCCAGCTGGGGGACAGAGTGAAACCCCTGTCTCAAAACAAAACAAATGAAAAAAAAAA
[-,A,C]

FIGURE 3-22

```
      CCTTAATAATCAGTAACTGTCACTTTATATTATGTTGTGAGTGTGTGTCTATATACACCT
      ATATGTATACATTTCTCTTATTACACATTCATTGGTGATCTGATGTGGAGCCCCAGGGAT
      TAAGGGCAACTTTGAACTACCCTGACACAATCAAGCCAAATATCATTCCCGTGGAGGAAG
      TAGAGTATCTAGGTTCTGTCTCCTAGTTGCAGCTTTACCTTGAGGACAGAGACTCTAATC
      CAGCTGTGCTGAAGGAGCACATCTCCTGACTTCTGAGCTTTCCCCTGGTAAATTCAAACT

6983  CACATTCATTGGTGATCTGATGTGGAGCCCCAGGGATTAAGGGCAACTTTGAACTACCCT
      GACACAATCAAGCCAAATATCATTCCCGTGGAGGAAGTAGAGTATCTAGGTTCTGTCTCC
      TAGTTGCAGCTTTACCTTGAGGACAGAGACTCTAATCCAGCTGTGCTGAAGGAGCACATC
      TCCTGACTTCTGAGCTTTCCCCTGGTAAATTCAAACTGGATGTCACGGCGCCCTCAGATA
      GAGCCTGGTAATTTGCCCTGGGGAGAGTGACTGTCTTTTGGATCTAATTTGACTTTTGCC
      [C,G]
      CAGTTGGAGGAAAATCTTCAGGGCTAGGAAGGATTGTATTTGTCTGACCCCAGAGATAAC
      CTGGGTTTTGAGGAACATGGGGCATCAACCTGAATGGTCTTGTAAGATCTCTCCCACGCC
      AGCTTGCCAGTGTTTCTCTGATGAATTTAGAGTACCTGAGTAGTGCAGGCCTGCTGGGAG
      GAGGACTCTCCCTCTGTGCTACTCAGAGAAATTCATTCTTCAAGGCCCCCTTCCAGCCTT
      GCTCTTACCCAGCTGGGCTACAGTTACAATAAAGGAAATGACTTTTCTTCTCCCCTTCCC

9885  GGCGTGCCACCACACCTTGCCATTTTTTTTTATTTTAAGTAGAAACAAGGTCTTATTAAT
      ACTATGTTGCCCAGGCTGGTCTTGAACTCCAGCGATCCTCCTGCCCCAGCCTCCCAAAGT
      GCTTGGGATTACGGAAGTAAGCCACTGTGCCTGGCCAGTGCAACCCCCATTTTATACTAA
      AACAGGAAGGCCCAGAAAGGTTTGGAGTAACTTGTCCAGGGTCACACAGATGATATTTGA
      ACTCAGGTCTCCCTGGCTCCCAAGAGAGTCTGCTTTCCACTAGGACTCCCAGGAGAAAAA
      [A,-]
      AAAAAAAAAAACAGTAGACTTGGAGACAGAAAATCTGATTTGAGTCTTAGTTGAGCTAGG
      CTAACTGTGTAACTGTGGGCAAGTTCCTTAGCCCCTGTGAGCCTCAGTTTCTTATCTGTA
      AAATGTCATAAAAGAAATCCATCTCATGGAGTAGTTGTGATGATCAAGGACTCTGAAAAC
      ATTAGAATGGTTTAATGTGAAGGATTAGCAGCAGCACATGGCAACATTGTGCATCTTATA
      TTAACTATCCAAATATATCAAGCGTCATTTGCTATATATAAAAGTCATCAAATTAGGCAC

12538 ACTTGGGAGGCTGAGGCAGGAGAATCACTTGAACCTGGGAGGCAGAGGTTGCAGTGAGCC
      CAGATCACGCCACTGCACTCCAGCCTGGTGACAGAGTAAGACTCCATCTCAAAAAAAAAA
      AAAAAAAAAAAAATTCCTTAATTTGGCCTACAGTAGAGCCCTCCGTAATGTGGCCTCTCT
      CCACATCTCCACAACCTCCTGCTCCCTGCACTTCAGCCTCACCTCTCTTCTGGACAGGCC
      CTCCTTCTGACAAGGGCTTTGTTCATTCTGCTCCCTCTGCCTAGAATGCCCCCTTACTCT
      [G,T]
      TTCACTTAACTCCTGCTTATCGTTTAGATCTTTACCTGGATGGCTCAGAGAAATATAGAA
      GTAATTCCTCACCCTGAAAAATAGGTTAGGTCCCTGTTTTATGTTTTCATAGACCTTTCC
      TTTGAGGCTTTTTTTAAAAAAGTAGTTTTAATCTCACATTTATTCATGTGATCATCTCCT
      TAATGATATCTTAAGACCTCTAATAGAACAATTTGGTCATGGACTGTGGGGTTTTTGCCC
      CTCATTGTGTCAGCACTGAGCATATTGTTGGCATAGGAGGGATATTTGTTGAATGAATTG

17707 GTAGTGGGTGCTCAGAGTGTTTGCTGGGTGAATGATGTATTTGTTGAACGACTCTTTGGA
      CACTTGAATAAAGTCCATCCAGTATGCACCATTACCATCTCTTCGCTCTACAATATTCTT
      TTAGGCAAGAGCTTATCTTTTGAGGTGATAAGATAAGCTCAAACTTATGTAGACTAAGAC
      CTCAGTCTGTAAATGTCATCCCTAAGTCTTAAACCATCAAAACCAGGGCCTCAAGGAATG
      GCATGCCTTCTGCAACTGTAGCAACCTGCTGTGCTTATTTTGCCGTGTTTTTCATTTTTC
      [T,C]
      CCCAAAAGCTAGAGTCCCTTCTCCCATGGGCAGTGCTGGAAGTGTGCTAACAAATTCTTT
      CTCCATACTGCTTACGATTACAAAAAAAACCCTCAGCATCTCATGCCAGACTTGAGTTAA
      GGTTGTTTTCTTTTGTGTGTCAGCTGTATTCTGGTCATGACTTCCTGATGATGCCCTATA
      GAGATTTTGCTGAGATCAGAGGGTGCTCCACTGCCATCAGTAGCACTGACTCTTGCAGAA
      GCACCGTTTCTGAAGTTGGCTAATGTCATCCCTCACGTTTGTTTGTTTGAAATTTGTTTT

18219 TGCCATCAGTAGCACTGACTCTTGCAGAAGCACCGTTTCTGAAGTTGGCTAATGTCATCC
      CTCACGTTTGTTTGTTTGAAATTTGTTTTAGTTCCAGAGATAGCACTTTCATGGAATGAC
      GCTATCTTCTAGAATCACTTTTTTTTTTTTTTTGAGTTGGAGTCTCGCTGTGTCGCCAGG
      CTGGAGTGCAGTGGCACAATCTCAGCTCACTGCAATCTCCACCTTCCGGGTTCAAGTGAT
      TCCCCTGCCTCAGCCTCCCGAGGAGCTGTTACTACAGGCGCACACCCCCACTCCTGGCTA
```

FIGURE 3-23

[-,A]
TTTTATGTGTTTTAGTAGAGACGGGGTTTCACCGTGTTGGCCAGGATGGTCTCGATCTCC
TGACTTTGTGATCTGCCTGCTTCAGCCTCCCAAAGTGCTGGGATTACAGGTGTGAGTCAC
CGCGCCTGGCCTAGAATCACCTTTTTATACCATAACGTGAGCACCACTGCCGCGTCACCA
AGGAAAGAGAGAGGCAGCTACTGTGGGGTTACAAATGGGTAAGAGTGGCACCAGGAAGGT
GAAAGTCTCTACTTAGCCAAGGCTTAACAAAATGTCAATCACCAAACATTTATTTATTAA

19670 GACCCCCATGATGAGCAACTATAGCACTAGAACAGTGATAATAACTAATGTTTATAATGC
ATCTTCAGTTTACAGAGGGCTTTTGTACTCATCATCTAGTTTAGTTCCTGCAACAACCTC
TTGAGGAATATAGCACAAGCAGGACAAGGGAAGCCCAGAGATGTTAAATAATTTATCCAA
GTTTATGCTGCTGGGAAGGGCAGCACTGAAATTAAAAGAAAAGTTTTCTGAGCTCAAATC
CCATGCCCTTTCCTCAATGTGAGCTCTAGCAAGGTATTCAGGAATCCTGCCTCTACAGTT
[C,T]
AGAGCCTCAAATTGCTGGGTATGTTGAGTTCTTGTATCTGATTTTTCTAGATTTCCTGCC
CACATTCTTACTGTCTGGATATCAGGAAAGAGTTTATCAAATGCCTGTGGAAATCCAAGA
TAAGGTCTCATGATGAGTAACCCAGTGAAAACATGAAGTCAAGTCTAACTAGTCACTACT
ATTTCACTACTGCTGACTCCTGATGATCAGCTCCTTTTCTAAGTGCTTACTGTCCACTTA
TTCCATCATCTGCCTAGAATTTATGTGAAGGAATCAAAGCAAAAGGATCATAAGGCTTCC

21153 GGACCCTTGTTTTAGAAGGATGACTGCTGCTATAATGTAGAAAGTGATTTGGAAGAGGGG
AGGAGTGGGGCACGAAAGATGGTTAGTAGATGGGGGTGGTAATGCTTACCTTTCAGTATT
TGGAGGCTTCGGAGTCCTCAAAAATTCTCTTCCTTGATTGGAGTCCTCCCAGCCAATAGA
GGGCTTCACACAAACAGTTTCTTGGGTTTTGAATTGTTTGACCAGAGCTTTCTTCCGACA
AAAGGTTGGGGTGATTCATTCACTTACCACACCTTGCCTGAACATTCACTTGGGGCTGCC
[G,T]
GTTATGAAGGCTATTGTTCTCCAGCCTGTCACAGACGCTTTGAAGACCTGTGCCTCAGCT
GGTTCTAAGGAGTCAGTTTGTTCAGCTCCGTGCCAGGTTTCCAACTTATGAAATGTGCTG
GAGATTAACACCTCTCCTGCCATTTTATCCCTACTATAATTGCCAGTCAAAGGATTCCTG
CAGTTGCCTCTGGCAGCCATAACTGATGAATGTTCTGCCAGCTGCTCTGAGGACCTAGAA
GAGCAGTTTTCTATCCAGGACCAGTTTCCAAGGGTGGGAGGGTGAAATATATCCTCCAGT

24566 CTACTCTGGAGGCTGAGGTGAGAGGATCACTTGAGTCCAGAAGGTCGAGGTCAAGATTGT
AGTGAGCCATGATGGCATCACCGCACTCCAGCCTGAGTGACAGAGAGAGACCCTGACTCA
AAAAAAAAAAAACAAAAAAAAAAAAACACCCTCACCACTTATCAGCTATTTGTCTTGAGAA
TAGTGACATAACCCCTCAGAACCTATTTCCTAATCTGTTAAATGAGGCTGATGACGTTTC
CTCCTTTTACTGGCAATTTAAACATGATGGATAATAAATGCTAAGCACTTAACACAGGGC
[C,-]
TAGAAGATATTAACTGCTCAATAAATGGTAGCTTCTTAACAGTATTCAAACCCATGTGCT
CTTATCACATGCATTGTTGTCCCTGTGTCCAGTTGGTGGAATGGGAAAAGGCTCCCTTGT
AACCCCATCTACCATCTTTATCAGACTTTCCTGCCATGGTTCACAGTAAGAGATAGAAGC
TGCACGGTGACTTCTGGCTCTTTACAATGGTGAGCGGTGTGTGCCTGGTAAGGGAGAGCT
GATGTCACTGCCCCAAATCCAGTAGTGAGATCTGAGTGTTCTGGTTTCCTCCAGCAGCCT

26604 GATTTGCAGCTGAGCCTGTCTATCTGGTGTGGGAAGAAGATGGGGAGTTACTTGTCAGTC
CCGGCTTACTTCACCTCCAGAGACCTGTTTCGGTGAGTTGGTCTCCGAGTTCCCCTCTCC
ATCTCTCCTGGCCCCTGGTCCTGAGAGGAGGGTGGTCTCCCTAAATCTCCTTCTCACTTA
GTCCTTTACCATCGGTTCTGCCGGGCAGAAGCCAGCGGAGGTTATACCCAAGGAGAATCG
GCCTTGTGAGGTACCCCCATTATGTCCTGGAAGTGGTGAGGGGAGGGATATACCCAGAAG
[G,A]
AACTTCTTAGGGAGCTCCAGCTCCCCTTCTATCCCAGACAAACCTGAAGGAGCCTCCAAA
AGATGCCACTGACCTGCCCATTGTAGATGTTACTGCTTCCGGGGGGAATAGCCCAAATAG
AGTGCTGTTTCCAGCTCTCACATGTCTTACCTGCGGGCCATGCTGCCTGCCCAGGAATTT
GTCCCAACAAGCAGGATGGGCAGGTTTTGCCAAACTGTGGAAACTGGCAAGTCCTGGGTG
TGGGTAGCCTGGTACACAGTAGGCACCTTATAAACGTTTGTTCTCTTAATGGCAGGCACA

27255 TGGGGAAAGACCTGGGCGAGTGCTTCTAAGACTGGAGCAATGGGCTTTAGAGTGTTCCTG
AGCTGCTGGGCCAGCCCCCACACCTCCTCAGTCCCTAGGCCTAAGTACCTCCACGAGCCT
CTCTCTGTGGGGCTTCTCAGAGGGAGATGTGGAAACTCTACCTCTAACCTGGCTTTCTTT
GCTCATTGCCCCACTCCACCTCCCATAGAAACTCCCCAGGGGGTTTCTGGCCCTCTGGGT

FIGURE 3-24

```
CCCTTCTGAATGGAGCCATTCCAGGCTAGGGTGGGGTTTGTTTTCATTCTTTGGGAGCAG
[C,G]
CTGTTGTTCCAAAAAGGCTGCCTCCCCCTCACCAGTGGTCCTGGTCGACTTTTCCCTTCT
GGCTTCTCTAAGCTAGGTCCAGTGCCCAGATCTTGCTGCCGGGATACTAGTCAGGTGGCC
AGGCCCTGGGCAGAAAAGCAGTGTACCATGTGGTTTTGTGGAATGACCGGACCCTGGTAG
ATTGCTGGGAAGTGTCTGGACAGGGGGAAGGGGGAAGGGAACTGGTCCTCAATGCTGACT
CTACCAAGCGCCCTGCTAGACACTTTATCCTTTAATCTCTCAACAGCCTAAAGAGATTAT

27399  AGATGTGGAAACTCTACCTCTAACCTGGCTTTCTTTGCTCATTGCCCCACTCCACCTCCC
ATAGAAACTCCCCAGGGGGTTTCTGGCCCTCTGGGTCCCTTCTGAATGGAGCCATTCCAG
GCTAGGGTGGGGTTTGTTTTCATTCTTTGGGAGCAGCCTGTTGTTCCAAAAAGGCTGCCT
CCCCCTCACCAGTGGTCCTGGTCGACTTTTCCCTTCTGGCTTCTCTAAGCTAGGTCCAGT
GCCCAGATCTTGCTGCCGGGATACTAGTCAGGTGGCCAGGCCCTGGGCAGAAAAGCAGTG
[T,C]
ACCATGTGGTTTTGTGGAATGACCGGACCCTGGTAGATTGCTGGGAAGTGTCTGGACAGG
GGGAAGGGGGAAGGGAACTGGTCCTCAATGCTGACTCTACCAAGCGCCCTGCTAGACACT
TTATCCTTTAATCTCTCAACAGCCTAAAGAGATTATATATCCCCATTTTACAGATGAGGC
AACCAGTTTCAACAGAGTTAACATATGGAGCCTCACTGGGCAGCTTTTTCTGTCTTCCTG
ACTTTCTCTCATCCTTCAGGGGGCTGCAGGTTTGTTTTCTTCTCCTAGTGGAGAGGAAAT

28088  AAGAGCCAATGGAAATTGATCTTGAGTTTAGGAGAAAGCTTTTTACATGTGGAATTAAGAT
GCCAAGTGTTGAAGTAGCCACATTTCAGGTCCTCATTAATTTCTCTTAATCCTGGGAAGG
CAGCTTAGGAGAAGGGTTGTTCCTTTAGGAGCCAGGAACTATACCCCTTTTACCCTTGGA
GAGGCAGGGAAGCCAGGGAGGACACAACTTCTCAGGAAGAGGAGAAGCTAGAGCAGATAG
TGAACTCTCAACCTGAACCTTTAAGGGCCAGACCACTAATGCCACCCAAGTCCACCTGCC
[G,A]
TTTGTCTTGTTCTGTCCCAGGCTTTCTGGAGAACCTGATCTTCTTGCCCCTACCCCCAAG
CTCCGTTTGCCCAGCTAGAGTCTGGGGGGTACTGACTGACTTTCGTAGACATTCTTCCCT
TCCCCAAATAAGAGGCCACATTCCTGAAGTCACTTCTGAAGAGATAGCTGCCACACAGGG
CTCTTTCCCCCCAGGGAGGGACCACCCAGACCCTCTGCTCTCCCAGGTATCCGTTACCAC
ATCACTACCTGGTCAGAAAGCTGTTTCTGCCATTAGCCCCTCCCTCTTTTATTATAGGAT

28734  AAGTAGAAGCTAGACTTCTTGGGCTCCTGAACAGGGTCCTTGCTGGATTCTGTGAAACAA
ATTAAGTTCTTGACCCTAGGCCTCTGGGGGAGTACAAAGTCTATGGGAGTTCTGGGGCTG
TGGTTGCAAGGAAAGTGACGCAACCAGATTCCATGGGGACATGATCAGGCGTGACATGTG
AGGGAGGAAGAGGGAGCAAGGGAATGAAGAATACAACTTCTGTGTCCCATACACCCCTGC
CTGACAGGCCATACATACTCAGCAGAGAATGCACTGTCTTTCCTACCACACTAGCGTGAG
[G,A]
AGTGAGCTGCAATTACCACTGTGCTTCCAAGTAAGAAAATACCTCAAATTGGAATTTACA
AAAGAGGTAAATTAGGGAGTGGCTTTTGTCGGACATCTTTAAAGCATTTTTCTTTTTATA
GAATTTCACTTAATGTCCAATACTGATTTAATGAGCTTGGGTTTACACATTATCTCTTGA
AGAAAACAAATGAACCTTTGTGTTCCAAAGCAATCCATGTTTAAAGGGAAAAAATTATGC
ATAACTCTGCCCAGCTTCACAGTAACCTTTGGCAGGTGCCTTAGGTCCTCTGGGACTCTT

29246  AATCCATGTTTAAAGGGAAAAAATTATGCATAACTCTGCCCAGCTTCACAGTAACCTTTG
GCAGGTGCCTTAGGTCCTCTGGGACTCTTTTCCTTATCTGAAAAATGAAGGACTTGGATC
AGGTGAATGGTTCCCAGCTCTGCAACTTATGTGGCTCCTCAGAGGCACACAAGCTCTTTT
CCATTATTTGCCAAATAATGGAGGCCCTGTCTTTAACTGCAGTACAACTACACAAAATAC
TTGAAACTACAGTCTTCCTGGTTTTTGGTTGGAACTGAATCAGTGCACTCTAGCAACACT
[-,T]
ATTTCTTGCTGTTCGTAGGCTTCATTATGTGTTTGGTTAATTTTTTAAAACAACAATAAC
ATATTCCATAATAATTACAGCTTAATTGGCAGACTGTTTCAGTCTATAGGATCTGCAGGA
AGGAGGAGTAATAAAGGGATTTTTGACTGAGCTCTTATGGAACAGAGTCTCTCTAGGCCC
CTGTCATATCTGCCCTTCTGGGCCCTGGGGAAAAGTTGGCATCCCCAGTTGTGGTGCTCT
CCAGGTGCCCTCAGGCTGTGGTGGAGGGAGCTTCCCATTCTCTCCTTCAGCCCACTCAAT

29490  AACTACAGTCTTCCTGGTTTTTGGTTGGAACTGAATCAGTGCACTCTAGCAACACTTATT
TCTTGCTGTTCGTAGGCTTCATTATGTGTTTGGTTAATTTTTTAAAACAACAATAACATA
TTCCATAATAATTACAGCTTAATTGGCAGACTGTTTCAGTCTATAGGATCTGCAGGAAGG
```

FIGURE 3-25

AGGAGTAATAAAGGGATTTTTGACTGAGCTCTTATGGAACAGAGTCTCTCTAGGCCCCTG
TCATATCTGCCCTTCTGGGCCCTGGGGAAAAGTTGGCATCCCCAGTTGTGGTGCTCTCCA
[G,A]
GTGCCCTCAGGCTGTGGTGGAGGGAGCTTCCCATTCTCTCCTTCAGCCCACTCAATTCAG
AGGCTAGGGGCTGAAAGAAGCTTCTCTACAACTGGCTGTTCACTGGGAGGTTAAGGGATG
ACCATCCAGCCAGGCCTTCCTCAGGACATGGGAGGGCTTATGCTTTAACATGTGTAAATC
CACTGCAATAATGACTGGTTCTTTTACCCCATAAGGTTGAGAATTTACCTGTAAACATTT
TTGTCTGAAGAATTTGGATGTAAGTGAGGGCTGGGCCTCTATCTTATCTCACTTGGCTTC

29934 GGACATGGGAGGGCTTATGCTTTAACATGTGTAAATCCACTGCAATAATGACTGGTTCTT
TTACCCCATAAGGTTGAGAATTTACCTGTAAACATTTTTGTCTGAAGAATTTGGATGTAA
GTGAGGGCTGGGCCTCTATCTTATCTCACTTGGCTTCTCTCAGCACAGCACCTTGCCTGC
TTGTTCTTACACATCCTAGATGCACAGTAACTATTTCCTAATTATTAGAAATCTATTAGA
ATCAATTGATTTCAGCTGGGCTTGGTGGCTCCTTCCTGTAATCCCAGCACTTTGGGAGGC
[T,C]
AAGGCTGGAGGATCACCTGAGTCCAGGAGTTTAAGACCAGCCTGGGCAACATAGGGAGAC
CCTGTCTCTACAAAAAATAAAAAATTAGCCAGGCATGGTGGTGTGCACCTGTAGTCCCAG
CTACTCAGGAGGCTGAGGCAGGAGGATCTCTTGAGCCTGGGAGGTCAGACTACAGTGAGC
AATGATTGTGCCACTGCACTCCAGCCTGGGTGACAGAGTAAGACTCTGTCTCTTAAAAAA
AAAAAAAAAAAAAGTTGATTTCTATTTGGATAGATAAATAATTCATTTTAGGACCTTTCTT

34480 CTGACTTCAAGTGATCCACCCGCCTCGGCCTCCCAAAGTGCTGGGATTATAAGCATAAGC
CACTGTGCCCAGCTGCTCTCTATATTTTTAATACATATTATTTCCATTAATTTTCACAGC
AGTTCATTTTATAGATGAGGAAACTAGGCCAGAGAAGTAAAATATCTTGCCCAAGATGAT
GTAACTAGTAAGTGGCAGGATCAAGATTCAAACCAAGCAATGTTCAAACCTCTTGGAAGC
AAGAATGTGGCCACTGTGGAAGGTGCAAGGCCTTGACAACAAGAATAGGGAAAAGAAGGA
[A,G]
CTAGAAGGAAAGAGATGGCATGGGCTCAGCAGGCCAGGGAGCTCTTAGCTGTGTGTGTTG
GGAAGCTCAGAAGGGAGGAAGAGGTTGTCTGTGCAGGTAAGTCCTGAGAACACACCAGAC
TTTTGAGAGGTGGAGCTTCATAGCCAGGTCATTAGGGGAGAAGGGAGCTATAGATTTTTT
TTTTTTTTTTTTTTTTTTTTTTTTTTTTAGAGACGGGGTCTTACTATGTTGCCCAGGCTG
GTCTTGAACTCCTGGGCTCAAGTGATCCTCCCACCTCAGCCTCCCAAAGTGCTGGGATTA

38812 AAATCCAGCAGATCCATTGAGAGTTTAAGCAGCAAGGTGTTGTGACCAAGTTAACATTTT
AGAAGGATCACTGGTATGGAGGTTGGATTGGAGAGGGGAAAGCCTAAAGGTATAGAGACT
AGTTAGGAAGCTATTGTAGGCTGGGCATGGTGGTTCATGCCTGTAATCTCAGCACTTTGG
GAGGCTGAGGTGGGAGGATTGCTTGAGGCCAGGAGTTGAAGACCAACCTGGCCAACATAG
CAAGACCCCGTCTCTGTTTTTCTTAATTAAAAGAAAAGTCCAGACGTAGACATAGTGGCT
[T,C]
ACGCCTGTAATGCCAGCACTTTGGGAGGCCAAGGTGGGCAGATTGCTTGAGGTCAAGAGT
TTGGGATTAGGCCAGGCGCAGTGGCTCACGCCTGTAATCCCAGCACTTTGGGAGGCCGAG
GTGGGCGGATCACAAGGTCAGGAGATCAAGACCATCCTGGCTAACACAATGAAACCCCGT
CTCTACTAAAAGTACAAAAATTAGCCGGGCATGGTGGCGGACGCCTGTAGTCCCAGCTAC
TCGGGAGGCTGAGGCAGGAGAATGGCGTGAACCTAGGAGGCGGAGCTTGCTGTGAGCAGA

40731 GTTCTGTCCTATGTCTGTCTCTCGGATGAAGCTGAGCTGGCTTTCAGAAGCCTGCAGAGT
TAGGAAAGGAACCAGCTGGCCAGGGACAGACTATGAGGATTGTGCTGACCCAGCTGCCCC
TGTGGGGATCACAGTTTACAGCCAGAGCCTGTGCGGACCCAGCTGTCTGCCAGGTTTCCT
TAGAAACCTGAGAGTCAGTCTCTGTCCACTGAACTCCTAAGCTGGACAGGAGGCAGTGAT
GCTAAACCCTGAAGGGCAACATGGCCTATGGAGAAAGCATGGAGCTCAGAGCCTGGAGTA
[C,G]
GGGCACAGATAGGATTGAATAAATTGTGTAGAAAGACTTTGAAAACAATAAAGCAAAAGA
TGAATGAACGTTTTTTTTAGACTTGAGGGACCAACAACCCCCAAACCCCAGATTCTGCCA
GGTCCATGGGGAAGGAGAAGTTGCCTTGAGTGGAAGCCCCAAGTAGGGAGACTTACAGAA
AAGAAGTCAAGAGCACTGGCTCCCAGGCAGAAATACTGATACCCTACTGGGGCTTCAGGC
TGAGCTCCTCCCTTCACAAATCACTTCATCTCTCTGAGCCTGTTTCTGCATCTGTGACAT

41303 CTCTGAGCCTGTTTCTGCATCTGTGACATAAGATGGTAAGATAAAGGTGGCTGTCTCACC
AATTATGTAAGGATTAAATGTGGAAAAGGACATAAAGTTGTATAGTGCTGCCATAGGGAC

FIGURE 3-26

AGTGTTCAGTAAACGTGACACATTCTTAGTATCACTAAGAATCAGGTTCTTGGCCAGGCA
CCGTGGCTCATGCCTGTAATCCCAACACTCTGGGAGGCCTAGGTCGGAGGATGGCTTGAA
CACAGGAGTTTGAGACCAGCCTGAGCAACATAGTGAGACACTGTCTCTACAAAAAAAAAA
[T,A]
AATAATAATAATTGTTTTTAATTAGATGGGCAGGGCACTGTGGCTCACACCTGTAATCCC
AGCACTTTGGGAGGCCAAGGCCGGAGGATTGCTTGAGGCCAGGAGTTCAGGAGCAGCCTG
GGCCACATTCCTGTCTCTACAAAGAATAAAAAAAGTTAACTGGGCATGGTGGCACATGCCT
GTAATCCCAGCTACTCAAGAGGCTGAGGAGGAGGATTGCCTGAGCCCAGGAGTTCAAGAC
TGCAGTGAGCCTTGATCACACCACTGTACTACAGCTTGGGCAACAGAGTGAGACCTTGTC

41305 CTGAGCCTGTTTCTGCATCTGTGACATAAGATGGTAAGATAAAGGTGGCTGTCTCACCAA
TTATGTAAGGATTAAATGTGGAAAAGGACATAAAGTTGTATAGTGCTGCCATAGGGACAG
TGTTCAGTAAACGTGACACATTCTTAGTATCACTAAGAATCAGGTTCTTGGCCAGGCACC
GTGGCTCATGCCTGTAATCCCAACACTCTGGGAGGCCTAGGTCGGAGGATGGCTTGAACA
CAGGAGTTTGAGACCAGCCTGAGCAACATAGTGAGACACTGTCTCTACAAAAAAAAAATA
[-,A]
TAATAATAATTGTTTTTAATTAGATGGGCAGGGCACTGTGGCTCACACCTGTAATCCCAG
CACTTTGGGAGGCCAAGGCCGGAGGATTGCTTGAGGCCAGGAGTTCAGGAGCAGCCTGGG
CCACATTCCTGTCTCTACAAAGAATAAAAAAAGTTAACTGGGCATGGTGGCACATGCCTGT
AATCCCAGCTACTCAAGAGGCTGAGGAGGAGGATTGCCTGAGCCCAGGAGTTCAAGACTG
CAGTGAGCCTTGATCACACCACTGTACTACAGCTTGGGCAACAGAGTGAGACCTTGTCTC

41457 CTAAGAATCAGGTTCTTGGCCAGGCACCGTGGCTCATGCCTGTAATCCCAACACTCTGGG
AGGCCTAGGTCGGAGGATGGCTTGAACACAGGAGTTTGAGACCAGCCTGAGCAACATAGT
GAGACACTGTCTCTACAAAAAAAAAATAATAATAATAATTGTTTTTAATTAGATGGGCAG
GGCACTGTGGCTCACACCTGTAATCCCAGCACTTTGGGAGGCCAAGGCCGGAGGATTGCT
TGAGGCCAGGAGTTCAGGAGCAGCCTGGGCCACATTCCTGTCTCTACAAAGAATAAAAAA
[G,C]
TTAACTGGGCATGGTGGCACATGCCTGTAATCCCAGCTACTCAAGAGGCTGAGGAGGAGG
ATTGCCTGAGCCCAGGAGTTCAAGACTGCAGTGAGCCTTGATCACACCACTGTACTACAG
CTTGGGCAACAGAGTGAGACCTTGTCTCCAAAAAAAAAAGTTTGTTTTTTTTTATCCACT
CTCCTCACCAAACAAACTGAGTAAGTTAGAGCCCTCTCAGCTGGCATGTGTTGGAAACAG
TGCCCTCTCATTAAAGTGCTGCCCTCACTCCCATTGCCTCTTGGCCTTGGTCAGTATGAT

43168 AGCTACTTGGGAGGCTGAGGCAGGAGAATCGCTTGAACCTGGAAGGCGGAGGTCGCAGTG
AGCCGAGATCGTGCCATTGCACTTCAGCCTGGGCGACAGAGCGAGACTCTGTCTCAAAAA
TAATAATAATAACAATAACTAGCCGGGCCTGGTGGCACATGCCTGTAGTCCCAGTTACTC
AGGAGGCGGAGGCATGAGACTCAGGTGAACTAGGGAGACAGAGGTTGCAGTGAGCCAAGA
TCACACCACTGCACTCCAGCCTGGTTGACAGAGCGAGACTCTGTCTCAAAAAAAAAAAAA
[A,-,T]
CCCATTTGCTCATTTTTTGGATACTAGTATAACTATCACTCTAAACCAGTTAGTACTTAA
ATCAAGCAGATATGGGAGATGGTGAATTACCATCTACAGTGTTGTCATATATGTCACATA
CTGAGCATTATCAGCTAGTAGAATCTAGTTAATTGTTCTATGTGTGATGTATGCAGAGTT
CCCATTTTGAATGTGTTTTTACTATGCTTAAATAAATGACTGATGTCAGCAACCCCAAAA
TGATACATCTGATGTAAGAGCCCCTGTTCCCCAATAATAACATCTAAACTATAGACATTG

43357 AGGCATGAGACTCAGGTGAACTAGGGAGACAGAGGTTGCAGTGAGCCAAGATCACACCAC
TGCACTCCAGCCTGGTTGACAGAGCGAGACTCTGTCTCAAAAAAAAAAAAATCCCATTTG
CTCATTTTTTGGATACTAGTATAACTATCACTCTAAACCAGTTAGTACTTAAATCAAGCA
GATATGGGAGATGGTGAATTACCATCTACAGTGTTGTCATATATGTCACATACTGAGCAT
TATCAGCTAGTAGAATCTAGTTAATTGTTCTATGTGTGATGTATGCAGAGTTCCCATTTT
[T,G]
AATGTGTTTTTACTATGCTTAAATAAATGACTGATGTCAGCAACCCCAAAATGATACATC
TGATGTAAGAGCCCCTGTTCCCCAATAATAACATCTAAACTATAGACATTGGAATGAACA
GGTGCCCCTAAGTTTCCTCCCTCCAGGGTTTCTTGGCCGGTCTCTGAGGACTACACATCC
CTACTCCCGTCTTTCCTCATCTTCAGGCGCAGTAACAGTATCTCCAAGTCCCCTGGCCCC
AGCTCCCCAAAGGAGCCCCTGCTGTTCAGCCGTGACATCAGCCGCTCAGAATCCCTTCGT

45664 CCAGCTTTCCTTGGCTTCCCCCACCCCCAGGTGAAAGTGATGCGCAGCCTGGACCACCCC

FIGURE 3-27

AATGTGCTCAAGTTCATTGGTGTGCTGTACAAGGATAAGAAGCTGAACCTGCTGACAGAG
TACATTGAGGGGGGCACACTGAAGGACTTTCTGCGCAGTATGGTGAGCACACCACCCCAT
AGTCTCCAGGAGCCTTGGTGGGTTGTCAGACACCTATGCTATCACTACCCTAGGAGCTTA
AAGGGCAGAGGGGCCCTGCTTTGCCTCCAAAGGACCATGCTGGGTGGGACTGAGCATACA
[T,C]
AGGGAGGCTTCACTGGGAGACCACATTGACCCATGGGGCCTGGACCACGAGTGGGACAGG
GCTCAACAGCCTCTGAAAATCATTCCCCATTCTGCAGGATCCGTTCCCCTGGCAGCAGAA
GGTCAGGTTTGCCAAAGGAATCGCCTCCGGAATGGTGAGTCCCACCAACAAACCTGCCAG
CAGGGCGAGAGTAGGGAGAGGTGTGAGAATTGTGGGCTTCACTGGAAGGTAGAGACCCCT
TCCTATGCAACTTGTGTGGGCTGGGTCAGCAGCTATTCATTGAGTTTGTCTGTGTCACTG

47549 AATTAGCTGGGCGTGGTGGTGCACGCCTGTAGTCCCAGCTACTCAGGAGGCCGAGGCAGG
AGAATAGCTTGAACCTGGGAGGCAGAAGTTGCAGTGAGCCAAGATCACACCACTGCATTC
CAGCCTGGGTGACAGAGTGAGACTTCATCTCAAAAAAAAAAAAAAAAAGAGAGACTGATATG
GTTAGTACATTGGGGTGGAATGCGGAGGGTCCAGGGAATGGAGCCCTGCATAGGGGGCTA
ATGAAACATTTCAGATTTCTGAATTAAGGTAGTGGCTGTGGGGACAGGAGCCTGGGAGGC
[A,C]
GGGTGGAGTCAGAATGGAGAGACTGGTTGGCAATGAGGGAACAGGAGGAGGAGGAGGAGG
AGTTACGAGTGGCTTGAGGTGTCACTTACCAGACATTTGGGGGATGGGGGATAGCCGTGA
TTGTTGAGCAACTGGTTTGGGAAGAGCTAGCATTGATCCCTGCTGTTCTGTGCTAGCAGA
ACCTATCAGCATCTTCTGGGCAGGAAACTGGCTCCATGAGACTGGCTTAGGGAGAGGCTG
CTAGTCACCTAATCTGCAGAGAAGGGGCAGCTGGAGCTGTGGGACAGAAGAGGCATCCAT

47908 GGAGTTACGAGTGGCTTGAGGTGTCACTTACCAGACATTTGGGGGATGGGGGATAGCCGT
GATTGTTGAGCAACTGGTTTGGGAAGAGCTAGCATTGATCCCTGCTGTTCTGTGCTAGCA
GAACCTATCAGCATCTTCTGGGCAGGAAACTGGCTCCATGAGACTGGCTTAGGGAGAGGC
TGCTAGTCACCTAATCTGCAGAGAAGGGGCAGCTGGAGCTGTGGGACAGAAGAGGCATCC
ATGTAGCTGGTGGGGGTGTCTCAGCTTGTGAAGAGGAGATGGCTTTGAGCAGGGCTGACA
[C,A]
TGAAAAGGCTGGAAGAAAAAAACAGACACACAAGAGTCTCAGGATCAGGTAGCATAGGAA
AGTTGTGGACAGTCTTTGAGGAGCACTCCCTCAGGCAGGCAGGCAGGCAGGTCATGAGCT
ATAGCGATTCAGGAAGAGCTCCCTGGGTGTGTGAGCAGCTCCAGGAGCCTAAGGGATGAA
AGTAGTATTGCAGGGGGCTGGAGAGCAAGGAGTGGCTCCTTCTACATTTGCAAGGGAAGG
AGAAAGGAAGTTGCTCCTGAGAGTGGTAAGAGTCAGTGGTGGAGGCCTGGAGAGGAGACA

52267 TTGTGAGGGGTAGAGGAGAGGAGAGACAAGGGATGGTTAGGATAATGAAGGAATGTTTTG
TTTTTGTTTTTGTTTTTGAGATGGAGTTTCACTCTGTCACCCAGGCTGGAGTGCAGAGGT
GCAATCTTGGCTCACTGCAGCCTCCGCCTCCCAGGTTCAAGCAATCCTCCTGCCTCAGCC
TCCCAAGTAGCTGGGACTACAGGTGTGCGCCACCACGCCTGGCTAATTTTTGTATTTTCA
GTAGAGACAGGGTTTCGCCATATTGGCCAGGCTGGTCTCAAATGCCTGACCTCAGGTGAT
[C,A]
CACCCGCTTCAGCCTCCCAAAGTGCTGAGATTACAGGCATGAGCTACCGTGCCTGGCCAT
GAAGGAAGATTTGTTTTAAAAAATTGTTTTCTTTAATATTAATTGAACACCTCTGTTCAG
AGCACTGGGCTGGTGCCAGAGGGTTTCAGACATGAATCAGATCCAGCACCTCATAGAGCC
TTAATCTGGCACACACACACAGCCACAAGGAGACACAGACAAGGCAGGGTAGGATGAGTG
GAAGCTAGGAGCAGATGCTGATTTGGAACACTTGGCTTCTGCAGTGAAGCCCCTTCTTAG

54654 GGCCCCGGCCCCGGCCCCCAGGCCAGGCAGTGGCGGCCAAGGACCACGCATCTACTTTCA
GAGCCCCCCCCGGGGCCGCAGGAGAGGGCCCGGGCTGGGCGGATGATGAGGGCCCAGTGA
GGCGCCAAGGGAAGGTCACCATCAAGTATGACCCCAAGGAGCTACGGAAGCACCTCAACC
TAGAGGAGTGGATCCTGGAGCAGCTCACGCGCCTCTACGACTGCCAGGAAGAGGAGATCT
CAGAACTAGAGATTGACGTGGATGAGCTCCTGGACATGGAGAGTGACGATGCCTGGGCTT
[T,C]
CAGGGTCAAGGAGCTGCTGGTTGACTGTTACAAACCCACAGAGGCCTTCATCTCTGGCCT
GCTGGACAAGATCCGGGCCATGCAGAAGCTGAGCACACCCCAGAAGAAGTGAGGGTCCCC
GACCCAGGCGAACGGTGGCTCCCATAGGACAATCGCTACCCCCCGACCTCGTAGCAACAG
CAATACCGGGGGACCCTGCGGCCAGGCCTGGTTCCATGAGCAGGGCTCCTCGTGCCCCTG
GCCCAGGGGTCTCTTCCCCTGCCCCCTCAGTTTTCCACTTTTGGATTTTTTTATTGTTAT

FIGURE 3-28

54679 GGCAGTGGCGGCCAAGGACCACGCATCTACTTTCAGAGCCCCCCCCGGGGCCGCAGGAGA
GGGCCCGGGCTGGGCGGATGATGAGGGCCCAGTGAGGCGCCAAGGGAAGGTCACCATCAA
GTATGACCCCAAGGAGCTACGGAAGCACCTCAACCTAGAGGAGTGGATCCTGGAGCAGCT
CACGCGCCTCTACGACTGCCAGGAAGAGGAGATCTCAGAACTAGAGATTGACGTGGATGA
GCTCCTGGACATGGAGAGTGACGATGCCTGGGCTTCCAGGGTCAAGGAGCTGCTGGTTGA
[C,G]
TGTTACAAACCCACAGAGGCCTTCATCTCTGGCCTGCTGGACAAGATCCGGGCCATGCAG
AAGCTGAGCACACCCCAGAAGAAGTGAGGGTCCCCGACCCAGGCGAACGGTGGCTCCCAT
AGGACAATCGCTACCCCCCCGACCTCGTAGCAACAGCAATACCGGGGGACCCTGCGGCCAG
GCCTGGTTCCATGAGCAGGGCTCCTCGTGCCCCTGGCCCAGGGGTCTCTTCCCCTGCCCC
CTCAGTTTTCCACTTTTGGATTTTTTTATTGTTATTAAACTGATGGGACTTTGTGTTTTT

54693 AGGACCACGCATCTACTTTCAGAGCCCCCCCCGGGGCCGCAGGAGAGGGCCCGGGCTGGG
CGGATGATGAGGGCCCAGTGAGGCGCCAAGGGAAGGTCACCATCAAGTATGACCCCAAGG
AGCTACGGAAGCACCTCAACCTAGAGGAGTGGATCCTGGAGCAGCTCACGCGCCTCTACG
ACTGCCAGGAAGAGGAGATCTCAGAACTAGAGATTGACGTGGATGAGCTCCTGGACATGG
AGAGTGACGATGCCTGGGCTTCCAGGGTCAAGGAGCTGCTGGTTGACTGTTACAAACCCA
[A,C]
AGAGGCCTTCATCTCTGGCCTGCTGGACAAGATCCGGGCCATGCAGAAGCTGAGCACACC
CCAGAAGAAGTGAGGGTCCCCGACCCAGGCGAACGGTGGCTCCCATAGGACAATCGCTAC
CCCCCGACCTCGTAGCAACAGCAATACCGGGGGACCCTGCGGCCAGGCCTGGTTCCATGA
GCAGGGCTCCTCGTGCCCCTGGCCCAGGGGTCTCTTCCCCTGCCCCCTCAGTTTTCCACT
TTTGGATTTTTTTATTGTTATTAAACTGATGGGACTTTGTGTTTTTTATATTGACTCTGCG

54706 TACTTTCAGAGCCCCCCCCGGGGCCGCAGGAGAGGGCCCGGGCTGGGCGGATGATGAGGG
CCCAGTGAGGCGCCAAGGGAAGGTCACCATCAAGTATGACCCCAAGGAGCTACGGAAGCA
CCTCAACCTAGAGGAGTGGATCCTGGAGCAGCTCACGCGCCTCTACGACTGCCAGGAAGA
GGAGATCTCAGAACTAGAGATTGACGTGGATGAGCTCCTGGACATGGAGAGTGACGATGC
CTGGGCTTCCAGGGTCAAGGAGCTGCTGGTTGACTGTTACAAACCCACAGAGGCCTTCAT
[T,C]
TCTGGCCTGCTGGACAAGATCCGGGCCATGCAGAAGCTGAGCACACCCCAGAAGAAGTGA
GGGTCCCCGACCCAGGCGAACGGTGGCTCCCATAGGACAATCGCTACCCCCCGACCTCGT
AGCAACAGCAATACCGGGGGACCCTGCGGCCAGGCCTGGTTCCATGAGCAGGGCTCCTCG
TGCCCCTGGCCCAGGGGTCTCTTCCCCTGCCCCCTCAGTTTTCCACTTTTGGATTTTTTT
ATTGTTATTAAACTGATGGGACTTTGTGTTTTTATATTGACTCTGCGGCACGGGCCCTTT

54712 CAGAGCCCCCCCCGGGGCCGCAGGAGAGGGCCCGGGCTGGGCGGATGATGAGGGCCCAGT
GAGGCGCCAAGGGAAGGTCACCATCAAGTATGACCCCAAGGAGCTACGGAAGCACCTCAA
CCTAGAGGAGTGGATCCTGGAGCAGCTCACGCGCCTCTACGACTGCCAGGAAGAGGAGAT
CTCAGAACTAGAGATTGACGTGGATGAGCTCCTGGACATGGAGAGTGACGATGCCTGGGC
TTCCAGGGTCAAGGAGCTGCTGGTTGACTGTTACAAACCCACAGAGGCCTTCATCTCTGG
[T,C]
CTGCTGGACAAGATCCGGGCCATGCAGAAGCTGAGCACACCCCAGAAGAAGTGAGGGTCC
CCGACCCAGGCGAACGGTGGCTCCCATAGGACAATCGCTACCCCCCGACCTCGTAGCAAC
AGCAATACCGGGGGACCCTGCGGCCAGGCCTGGTTCCATGAGCAGGGCTCCTCGTGCCCC
TGGCCCAGGGGTCTCTTCCCCTGCCCCCTCAGTTTTCCACTTTTGGATTTTTTTATTGTT
ATTAAACTGATGGGACTTTGTGTTTTTATATTGACTCTGCGGCACGGGCCCTTTAATAAA

54799 GTATGACCCCAAGGAGCTACGGAAGCACCTCAACCTAGAGGAGTGGATCCTGGAGCAGCT
CACGCGCCTCTACGACTGCCAGGAAGAGGAGATCTCAGAACTAGAGATTGACGTGGATGA
GCTCCTGGACATGGAGAGTGACGATGCCTGGGCTTCCAGGGTCAAGGAGCTGCTGGTTGA
CTGTTACAAACCCACAGAGGCCTTCATCTCTGGCCTGCTGGACAAGATCCGGGCCATGCA
GAAGCTGAGCACACCCCAGAAGAAGTGAGGGTCCCCGACCCAGGCGAACGGTGGCTCCCA
[T,C]
AGGACAATCGCTACCCCCCCGACCTCGTAGCAACAGCAATACCGGGGGACCCTGCGGCCAG
GCCTGGTTCCATGAGCAGGGCTCCTCGTGCCCCTGGCCCAGGGGTCTCTTCCCCTGCCCC
CTCAGTTTTCCACTTTTGGATTTTTTTATTGTTATTAAACTGATGGGACTTTGTGTTTTTT
ATATTGACTCTGCGGCACGGGCCCTTTAATAAAGCGAGGTAGGGTACGCCTTTGGTGCAG
CTCAAAAAAAAAAAAAAAAAATGATTTCCAGCGGTCCACATTAGAGTTGAAATTTTCTGGT

FIGURE 3-29

54819 GGAAGCACCTCAACCTAGAGGAGTGGATCCTGGAGCAGCTCACGCGCCTCTACGACTGCC
AGGAAGAGGAGATCTCAGAACTAGAGATTGACGTGGATGAGCTCCTGGACATGGAGAGTG
ACGATGCCTGGGCTTCCAGGGTCAAGGAGCTGCTGGTTGACTGTTACAAACCCACAGAGG
CCTTCATCTCTGGCCTGCTGGACAAGATCCGGGCCATGCAGAAGCTGAGCACACCCCAGA
AGAAGTGAGGGTCCCCGACCCAGGCGAACGGTGGCTCCCATAGGACAATCGCTACCCCCC
[G,A]
ACCTCGTAGCAACAGCAATACCGGGGGACCCTGCGGCCAGGCCTGGTTCCATGAGCAGGG
CTCCTCGTGCCCCTGGCCCAGGGGTCTCTTCCCCTGCCCCCTCAGTTTTCCACTTTTGGA
TTTTTTTATTGTTATTAAACTGATGGGACTTTGTGTTTTTATATTGACTCTGCGGCACGG
GCCCTTTAATAAAGCGAGGTAGGGTACGCCTTTGGTGCAGCTCAAAAAAAAAAAAAAAAA
TGATTTCCAGCGGTCCACATTAGAGTTGAAATTTTCTGGTGGGAGAATCTATACCTTGTT

55499 TTGTTTTCTAATACCTCTTGTCATTCTAAATATCTTTAATTTATTAAAAAATATATATAT
ACAGTATTGAATGCCTACTGTGTGCTAGGTACAGTTCTAAACACTTGGGTTACAGCAGCG
AACAAAATAAAGGTGCTTACCCTCATAGAACATAGATTCTAGCATGGTATCTACTGTATC
ATACAGTAGATACAATAAGTAAACTATATTGAATATTAGAATGTGGCAGATGCTATGGAA
AAAGAGTCAAGACAAGTAAAGACGATTGTTCAGGGTACCAGTTGCAATTTTAAATATGGT
[C,T]
GTCAGAGCAGGCCTCACTGAGGTGACATGACATTTAAGCATAAACATGGAGGAGGAGGAG
TAAGCCTGAGCTGTCTTAGGCTTCCGGGGCAGCCAAGCCATTTCCGTGGCACTAGGAGCC
TGGTGTTTCCGATTCCACCTTTGATAACTGCATTTTCTCTAAGATATGGGAGGGAAGTTT
TTCTCCTATTGTTTTTAAGTATTAACTCCAGCTAGTCCAGCCTTGTTATAGTGTTACCTA
ATCTTTATAGCAAATATATGAGGTACCGGTAACATTATGCCCATTTCTCACAGAGGCACT

56825 ACTGATGGCTCAAAGGGTGTGAAAAAGTCAGTGATGCTCCCCCTTTCTACTCCAGATCCT
GTCCTTCCTGGAGCAAGGTTGAGGGAGTAGGTTTTGAAGAGTCCCTTAATATGTGGTGGA
ACAGGCCAGGAGTTAGAGAAAGGGCTGGCTTCTGTTTACCTGCTCACTGGCTCTAGCCAG
CCCAGGGACCACATCAATGTGAGAGGAAGCCTCCACCTCATGTTTTCAAACTTAATACTG
GAGACTGGCTGAGAACTTACGGACAACATCCTTTCTGTCTGAAACAAACAGTCACAAGCA
[C,A]
AGGAAGAGGCTGGGGGACTAGAAAGAGGCCCTGCCCTCTAGAAAGCTCAGATCTTGGCTT
CTGTTACTCATACTCGGGTGGGCTCCTTAGTCAGATGCCTAAAACATTTTGCCTAAAGCT
CGATGGGTTCTGGAGGACAGTGTGGCTTGTCACAGGCCTAGAGTCTGAGGGAGGGGAGTG
GGAGTCTCAGCAATCTCTTGGTCTTGGCTTCATGGCAACCACTGCTCACCCTTCAACATG
CCTGGTTTAGGCAGCAGCTTGGGCTGGGAAGAGGTGGTGGCAGAGTCTCAAAGCTGAGAT

58871 CGTCACCCACCACCCAACCCCTGCCGCACTCCAGCCTTTAACAAGGGCTGTCTAGATATT
CATTTTAACTACCTCCACCTTGGAAACAATTGCTGAAGGGGAGAGGATTTGCAATGACCA
ACCACCTTGTTGGGACGCCTGCACACCTGTCTTTCCTGCTTCAACCTGAAAGATTCCTGA
TGATGATAATCTGGACACAGAAGCCGGGCACGGTGGCTCTAGCCTGTAATCTCAGCACTT
TGGGAGGCCTCAGCAGGTGGATCACCTGAGATCAAGAGTTTGAGAACAGCCTGACCAACA
[T,A]
GGTGAAACCCCGTCTCTACTAAAAATACAAAAATTAGCCAGGTGTGGTGGCACATACCTG
TAATCCCAGCTACTCTGGAGGCTGAGGCAGGAGAATCGCTTGAACCCACAAGGCAGAGGT
TGCAGTGAGGCGAGATCATGCCATTGCACTCCAGCCTGTGCAACAAGAGCCAAACTCCAT
CTCAAAAAAAA

FIGURE 3-30